

FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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EDITORIAL COMMENT.

The Atlantic Flight.

It is with some regret that we notice certain of the daily newspapers are throwing cold water on Lieut. Porte's projected attempt to fly the Atlantic. The ground they take up is that there can be but one inevitable ending to the attempt, which, needless to say, is the failure of the attempt and the death of the daring pilot. Equally, the cloven foot shows forth when the argument is adduced that the whole thing is simply designed by Lord Northcliffe and his advisers with the sole purpose of gaining advertisement for himself and his journals. One paper goes so far as to make a personal appeal to Lord Northcliffe to call the thing off in the interests of humanity.

In the light of recent news from America regarding the machine on which Lieut. Porte proposes to make his attempt, we are anything but sanguine of the cross-Atlantic flight being made this year. That, however, is not quite the thing we have in mind at the moment. The point is that, given the designer and the pilot are quite satisfied of the ability of the machine to accomplish the flight, we do not conceive that it must necessarily have the unfortunate ending so freely prophesied. On the contrary, we believe that, humanly and mechanically speaking, the possibilities are all the

other way. Lieut. Porte calculates that he should reach the Azores in twenty hours after leaving his point of departure. The present duration record stands at nearly twenty-two hours, which leaves a fairly substantial margin for eventualities. True, this record was established on a "land" machine, unencumbered by floats or other adventitious aids to flying over the sea, but it nevertheless demonstrates the ability of the modern aeroplane for sustained flights, and shows beyond doubt that, if the calculations for the Atlantic flight are not hopelessly out, it is possible to fly the time requisite to cover the longest stage of the journey.

After all, the best reply that can be made to the prophets of evil is to remind them of their prognostications anent the London-Manchester flight at the time the *Daily Mail* first offered its £10,000 prize for that performance. Precisely the same things were said of it as are now being told us in connection with the Transatlantic flight, and yet—

Hendon-Paris-Hendon.

These long-distance aerial races are becoming so much a matter of everyday occurrence that it is really very difficult to find anything new to say about them. Time was when the mere project of a race from London to the French capital and back would have brought a storm of scoffing comment about the ears of the promoters, but now the announcement passes almost unheeded of the man in the street. It is with somewhat mixed feelings that we who are so closely interested in the aviation movement regard this passing of interest, which almost seems to indicate that the romance has gone out of flying. Not that there is, or ever was, anything really romantic about a movement which is almost purely one of mechanical development, viewed from the inside, but when the man in the street regarded the aeroplane as something almost supernatural, and the man who flew it as a species of demi-god, there somehow seemed to be more in it than in these very material days. What we have lost in romance, however, we have gained in solid progress, of which these long races are the outward and visible sign, and we must even content ourselves with that reflection.

To come down to the more material aspects of the affair, next Saturday's race looks like being a huge success, if only the elements are kind. At the time of writing no fewer than thirteen entries have come to

hand, and these include practically the whole of our best-known pilots and our most tried machines. Even now there is time for more to come in, and it is thought that some of the more famous Continental pilots may help to swell the entry list. So far, then, the promoters and the Royal Aero Club have no reason to be displeased with the advance results of the race.

Not the least interesting fact in connection with this event is the action of the Home Office in consenting to exempt competitors in the race from the incidence of the Orders under the Aerial Navigation Acts, which prohibit airmen from entering or leaving England without alighting in certain prescribed areas in order to report their arrival or movements to the authorities. It is evident from this that the Home Office has got over its panic regarding the movement of aircraft over these Islands. The Aerial Navigation Acts were passed, and the Orders under them formulated, when the authorities were in a state of absolute fright caused by the sudden and somewhat belated realization that the problem of man-flight had indeed been solved. At first, these orders were enforced in a foolishly restrictive manner, as witness the trouble in connection with last year's Aerial Derby which had to be postponed on account of official interference of a kind which can only be called silly and short-sighted. However, it is evident that a more equal appreciation of what may and what may not be done in the air in relation to the safety of the State exists in the official mind—which is something for which to give thanks.

The Aeroplane in War.

One of the best articles we have ever read on the subject of the aeroplane in war is that from the pen of the well-known war correspondent, Mr. Prevost Battersby, in the *Morning Post* of the 29th ult. In many circles it has come to be assumed that the function of the aeroplane in the wars of the future will be that of reconnaissance, and reconnaissance alone. While it is scarcely within the province of a journal such as FLIGHT to dogmatise on matters which properly fall within the scope of the professional soldier, we have never taken that view as it stands, preferring rather to think that while the ultimate duty of aircraft will prove to be the collection and transmission of information likely to prove of value to a commander in the field, that duty will only fall to an aerial force after the question of the supremacy of the air has been settled in favour of one side or the other. Once that question has been decided and aircraft have assumed

their ultimate functions, the commander who has secured his place in the air will be in the position of the player who is throwing loaded dice. These appear to be the conclusions arrived at by the able writer of the article we have mentioned, for he says:—

"The aeroplane is a wonderful instrument for reconnaissance, but such duties may come to be the last which it will have to perform. Most certainly it will, just as surely as the horseman, be challenged to fight for its information, and must be armed and equipped to accept the challenge. And where will such arming, once begun, be likely to lead us? Surely to the provision of a fleet whose prime objective must be the discovery and destruction of the enemy's aircraft. Just as the cavalry fight must often precede the search for information, and the possession of it rest with the victors, so the first effort of the Flying Corps commander will be to beat his opponent to the ground and keep the air clear for his own purposes of reconnaissance. Nor will it be for reconnaissance only that he will use the field that he has won. What is left of his fleet will be employed for a ceaseless harrying of the enemy's fortresses and camps, and in attempts to destroy the depôts on his lines of communication. In such a forecast one is not forgetting that the aeroplane has not yet been seriously opposed, and that the shell and the gun to prove its special bane may already have been invented. Most certainly the plane will have soon to confront the invention ranged against every new engine of war, and for that reason it seems probable that much which is at present regarded as within the aircraft's sphere, such as directing the fire of batteries in a general action, is likely to disappear from it. What has not been at all realised in this country is the extraordinary element introduced into war by the aircraft's mobility and new avenue of attack. The consternation which of old could only be produced in the threatened country after perhaps months of effort and the expenditure of millions can now be caused by aircraft in a few hours at practically no cost at all. It may be that all the lurid romance written round the new weapon has really dulled the general intelligence as to its coming import. One scarcely dares to talk now of dropping bombs from the sky; but, on the other hand it seems like a paltering with the most serious realities to go on writing of aircraft as a supplementary method of reconnaissance which may be put out of action by fog. The nation which continues thinking on such childish lines will pay dear for its ineptitude. The aeroplane is the deadliest weapon of man's invention, and it may prove of the greatest service to such a nation as ours with a temperamental dislike to military service. The aeroplane is not going to supersede the Army, but it is going to alter considerably its relation to war. In what respects it would be idle to dogmatise; what one desires is to produce the intense conviction of its power which may lead to right appreciation of the work before it."

These are words pregnant with a deep meaning for us. The truest word that Mr. Prevost Battersby has uttered in this article is when he says that the potentialities of the aeroplane have not been realised by the general public in this country. At all costs we must be as supreme in the air as we are on the seas. That is the very minimum to be required for the safety of the Empire, and sooner the realisation of this sinks into the public mind, the sooner we shall be on the high road to safety.

ROYAL FLYING CORPS.

THE following announcement appeared in the *London Gazette* of the 26th ult. :—

R.F.C.—Military Wing.—Second Lieut. Lofus A. Bryan, South Irish Horse, is appointed to the Reserve. May 29th, 1914.

The following appointments were announced in the *London Gazette* of the 30th ult. :—

Royal Naval Air Service.—Engr.-Lieuts. Gerald West Storey Aldwell, Charles Russell Jekyl Randall, and Edward Featherstone Briggs to be Squadron Commanders; Wilfred Briggs, Thomas Reginald Cave-Browne-Cave, Henry Meyrick Cave-Browne-Cave, and Charles Dempster Breese, to be Flight Lieutenants.

Assistant Paymaster Charles Robert Finch Noyes to be Lieutenant. The following officer of the Royal Naval Reserve has been appointed a Flight Commander: Lieutenant James Lindsay Travers.

The following officers of the Royal Naval Reserve have been appointed Flight Lieutenants: Lieutenants Reginald Lennox George Marix and Hugh Alexander Littleton; Sub-Lieutenants Ian Hew Waldegrave Stair Dalrymple-Clark, Ivor Guy Vaughan Fowler, Ronald Hargrave Kershaw, Thomas Alfred Rainey, Douglas George Young, Richard Edmund Charles Peirse, Christopher Draper, Hans Acworth Busk and Edward Thomas Newton-Clare.

The following gentlemen have been appointed Flight Lieutenants: Right Hon. Lord Edward Arthur Grosvenor and Charles Francis Beevor. Dated July 1st, 1914.

Distinguished Visitors at the Concentration Camp.

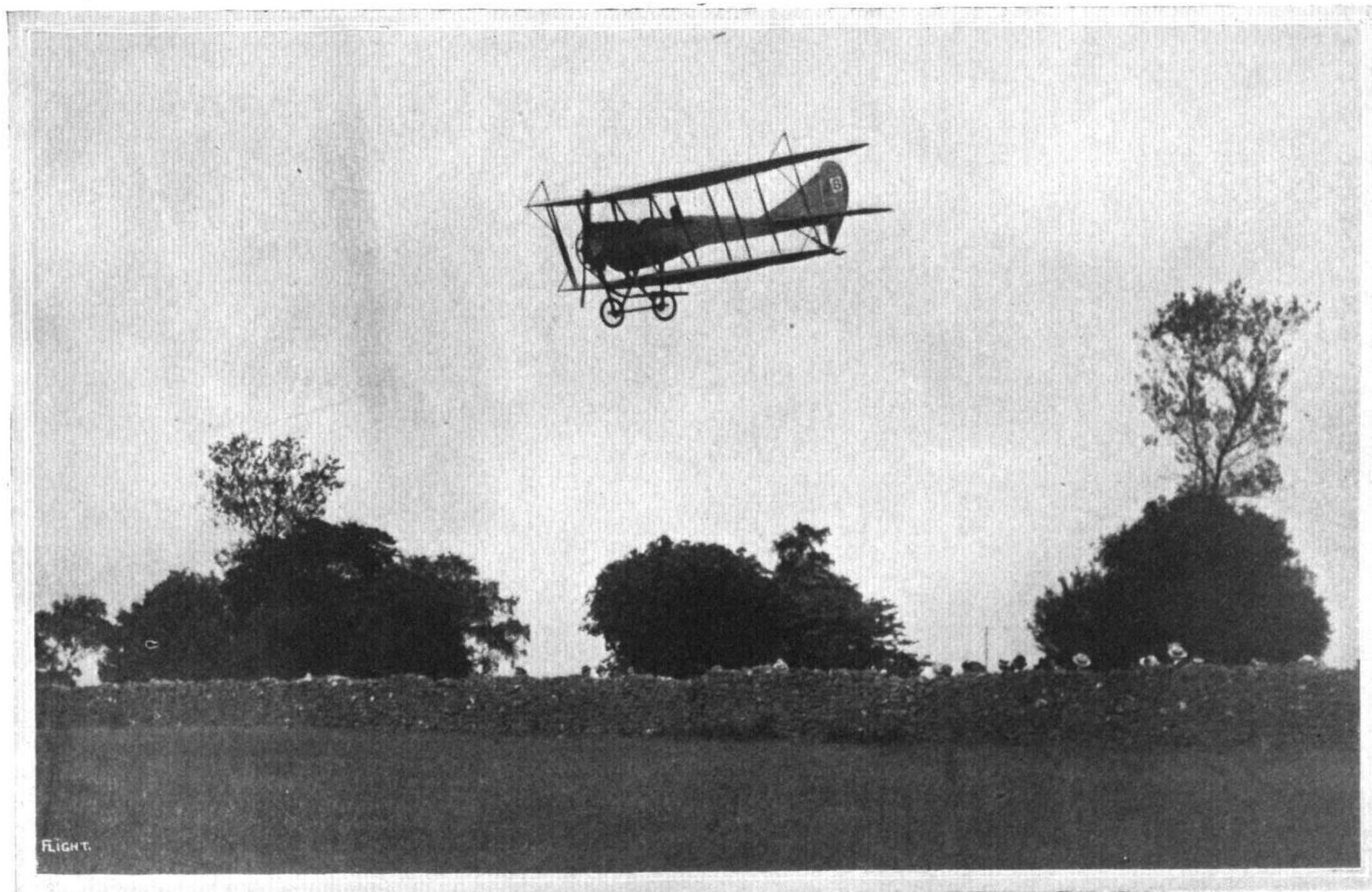
ON Friday, last week, the Prime Minister, accompanied by Mr. Baker, Financial Secretary to the War Office, Mr. Cyril Asquith and Miss Asquith, paid a visit to the Concentration Camp of the R.F.C. at Netheravon, being received by Brigadier-General Sir D. Henderson, K.C.B., and Lieut.-Col. Sykes, commanding the Royal Flying Corps, Military Wing. During the afternoon, Col. Seely joined the party, and went for a flight on a B.E., piloted by Capt. Todd. The party afterwards visited the Central Flying School at Upavon.

On Monday the visitors to the camp included Mr. Winston Churchill and Lord Roberts, as well as a number of foreign military attachés, among them being Major Count Greppi (Italy), Major M. Renner (Germany), Col. Inagaki, Major Tanikawa and Capt. Stubbya (Japan), Lieut.-Col. Vicens (Spain), Lieut.-Col. G. O. Squier and Capt. Wood (U.S.A.), and Major Horwath (Austria-Hungary).

During the afternoon Lord Roberts presented a number of prizes which had been won in various athletic contests.

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FLIGHT.

Mr. W. Rowland Ding, flying the Handley-Page biplane at Bath recently.

Photo by Graystone Bird, Bath.

ROYAL FLYING CORPS (MILITARY WING) AT NETHERAVON. THE CONCENTRATION CAMP.

(Concluded from page 677.)

Observation of Gunfire and Armament of Aircraft.—The work carried out in this direction has been of an extremely diverse character—balloons, kites and aeroplanes being employed in the exercises—but, as might be expected, the results of the observations made are of a confidential nature and hence we are not at liberty to disclose any matter relating to them in an article such as this. Extremely useful knowledge has, however, been gained during the experiments in the observation of gunfire as to the relative and potential value of the three forms of aircraft, as in the observation of gunfire all were employed, aeroplanes flying over the danger zone and the observers signalling the results of their observations to the firing point.

Aeroplanes armed with machine guns, rifles, bombs, &c., have also carried out operations against targets upon the ground, and kites flown in the air, and since the elevations at which the experiments were carried out were such as to render the aeroplanes practically immune from gunfire from the ground, the conditions were as near as possible similar to those which will actually exist in war time.

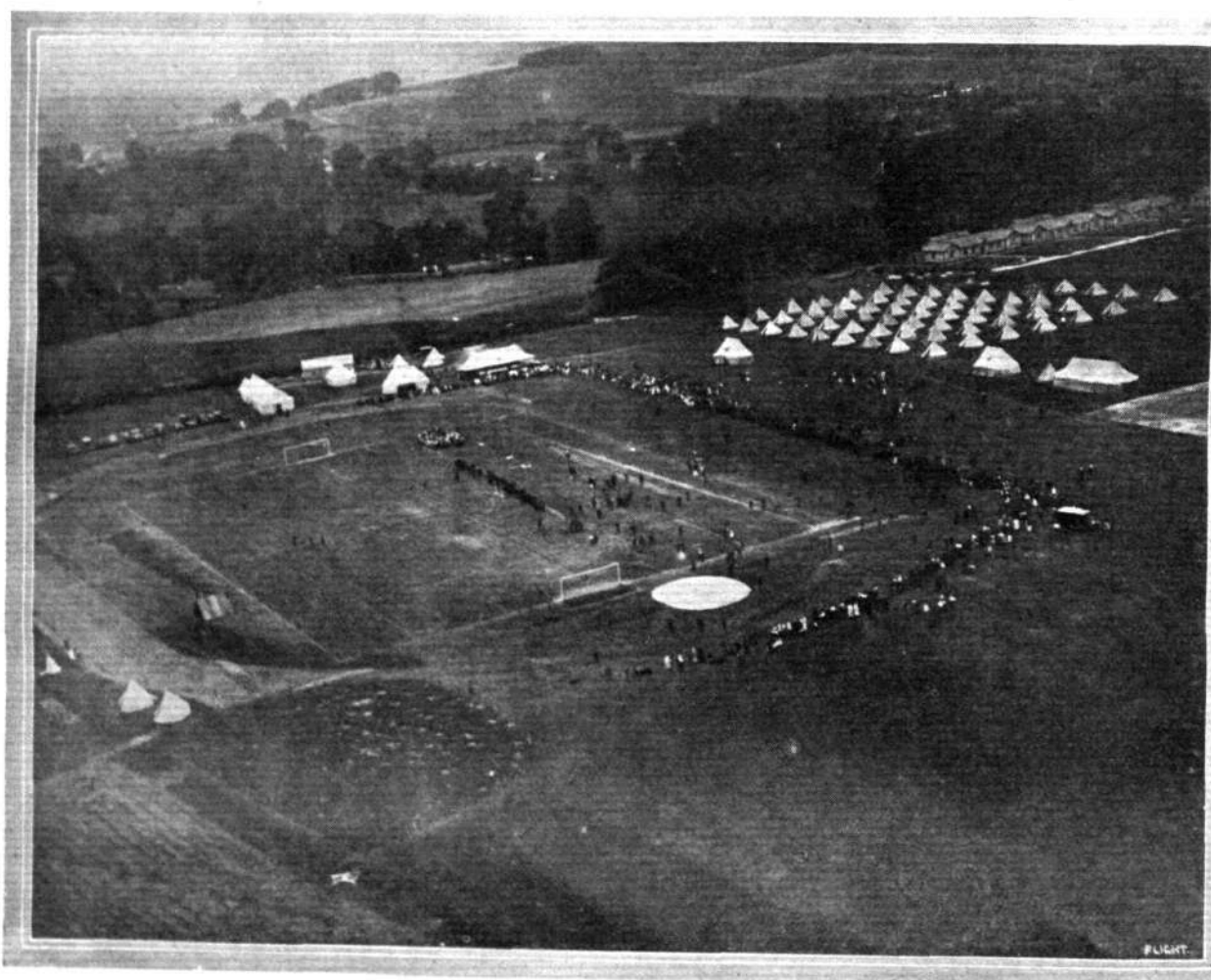
Transport.—The secret of success in the employment of aircraft for military operations lies in the completeness of its organisation, and that is not complete unless the transport is mobile and adequate for the maintenance of the machines in an efficient condition.

In war time, each squadron will be provided with a car for the commander, 6 light tenders of the Crossley type for the conveyance of riggers, men and boxes, 6 heavy tenders for the transport of large spare parts, camp equipment, &c., 3 reserve equipment lorries for other spare parts, 3 shed lorries, 3 flight repair lorries fitted with hand-power tools, electric lighting plant, small raw material, &c., 1 heavy repair lorry fitted with machine tools of various descriptions, 1 lorry carrying spare parts and stores for mechanical transport, 1 baggage lorry, 1 lorry for petrol and lubricants, 6 motor cycles and

6 trailers. In peace time, the squadrons are accompanied by the tenders, repair lorries, motor cycles and trailers. All squadrons at present in camp are now at full strength excepting No. 6 and No. 2—the latter having left some of its transport at Montrose—the equipment necessary being completed by the loan of spare vehicles from squadrons now forming. In war time the squadron transport would be completed by vehicles provided under the subsidy scheme. It will be observed that most of the lorries and tenders are in groups of three or multiples of three—due to the fact that the transport is thus entirely separate for each of the three flights.

Considerable attention has been directed to the exercise of the transport section of the squadrons. Convoy runs have been made by flights and by squadrons during the night as well as during the day. This is most important work as in transport it is essential for the various vehicles forming the convoy to keep in close formation, the distance apart being kept as small as possible so as to minimise the risk of capture in the event of an attack from a hostile force. It will be readily seen that the difficulty in limiting the distance between respective vehicles will increase with the speed and number of gradients negotiated, and be greater at night than during the day, so that since all these vehicles are motor driven and much of the work will from necessity be done at night, it is highly essential that exercises after dark should be frequently made.

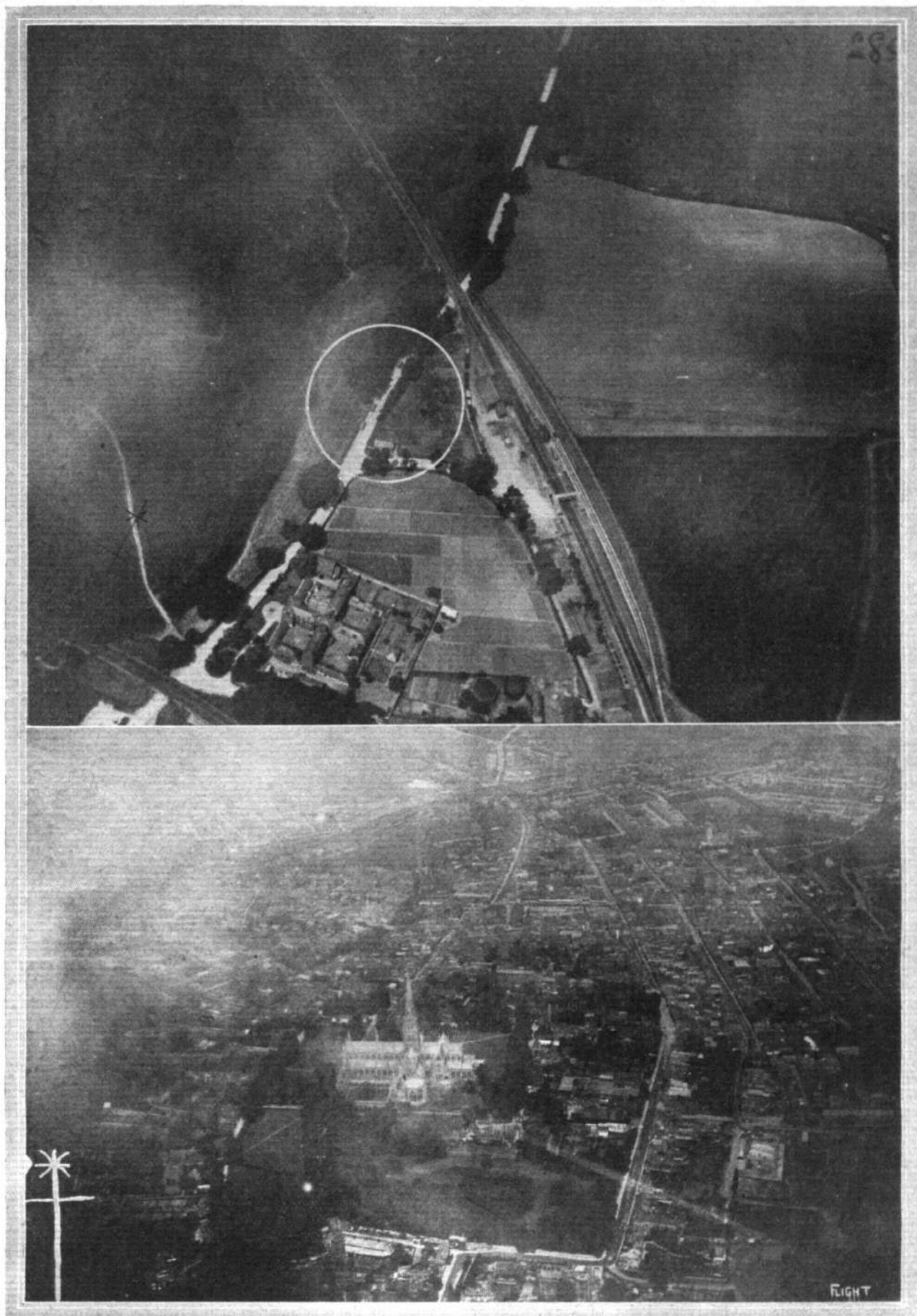
At one of these night runs at which we were permitted to be present by permission of Col. Sykes, the convoy started at 9 p.m. and arrived back in camp shortly before midnight, making a long detour through the surrounding country, the roads of which are seldom straight for any great distance and which are freely interspersed with hills of varying gradient. The run was very successful, the vehicles being in fairly close formation—from 30 to 50 yards apart—throughout the exercise, which, having regard to the type



CONCENTRATION CAMP AT NETHERAVON.—A photograph taken from an aeroplane while the sports of the Military Wing of the Royal Flying Corps were in progress on June 20th.

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CONCENTRATION CAMP AT NETHERAVON.—Two photographs taken during reconnaissances from a height of over 2,000 ft. on June 15th last. The lower photograph gives an excellent view of Salisbury Cathedral, while the upper shows the four wagons, which were the subject of the reconnaissance, on the road near Wilton.

and diversity of vehicles forming the convoy, must be considered excellent. The superiority of motor traction over horse traction was already evident, as apart from the greater speed of the former, it was not possible to discover their approach except by the visibility of the headlights until the vehicles were almost within hailing distance. Further experiments were afterwards conducted without the headlights, as it is obvious that under actual war conditions the employment of headlights would render them readily observable to a hostile aeroplane flying in the vicinity.

Lectures and Committee Meetings.—Not the least important feature of the Concentration Camp is the facilities provided for the exchange of opinions on various subjects, which more or less cover the science of practical military aeronautics. The lectures, which are detailed later, are in two series, one series being delivered by various officers, while the other is given by warrant officers and by non-commissioned officers of the corps. These should be attended with great success, as in the course of the discussion which follows each paper, points of vital interest were raised and their elucidation should do much to establish the ideas of all on sound lines. Here,

10. Piloting of Aeroplanes and Experience at C.F.S. regarding Methods of Teaching Piloting. Major C. A. H. Longcroft and Major J. M. Salmons.
11. Allocation of Squadrons to Subordinate Commands. Major Brancker.
12. Storekeeping. Capt. W. D. Beatty and Lieut. R. G. D. Small.
13. Meteorology. Capts. F. V. Holt and E. G. Harvey.
14. Mechanical Transport. Lieuts. G. B. Hynes, R. B. Martyn and A. Christie.
15. Workshop Management. Capt. G. I. Carmichael and Lieut. R. Cholmondeley.
16. Supervision of Aeroplane Maintenance. Major J. H. W. Becke.

By W.Os. and N.C.Os.

1. Rigging, and Training of Riggers. Sergts. J. Kemper and H. Bullock.
2. Renault Engines. Sergeant-Major W. Thomas.
3. Gnome Engines. Sergeant W. Bruce.



A view of the country about three miles south of Farnborough from an aeroplane above the passing clouds at a height of 6,500 ft.

also, is further evidence of the master-mind which is apparent in all the doings at the Camp. The papers read and the subsequent discussion are not to be merely of service to those who were so fortunate as to be able to attend the meetings, as a note has been taken of the discussions, which, together with the subject-matter of the Papers, will be printed when the camp disperses.

The list of lectures and the names of the lecturers are as follow :—

By Officers.

1. Notes on Aviation. Major C. J. Burke.
2. Reconnaissance. Major H. R. M. Brooke-Popham.
3. Allocation of Duties in a Squadron, and how Lack of Administration Stops Flying. Capt. U. J. D. Burke, Capt. G. S. Shephard, and Lieut. E. R. L. Corballis.
5. Recruiting and Record Duties for Military Wing. Major W. E. S. Burch.
6. Artillery Fire from an Observer's Point of View. Major J. F. A. Higgins.
7. Recruit training. Lieut. B. H. Barrington-Kennett.
8. Progress of Experimental Work. Major H. Musgrave.
9. Trade Qualifications for N.C.Os. and Men. Major A. D. Carden.

4. Austro-Daimler Engines, and Water-cooled Engines generally. Sergts. J. Wilkinson and A. Meed.
5. Common Mistakes with Engines. Sergeant-Major A. Measures.
6. Initial Recruit Training and Technical Instruction of Recruits. Sergeant-Major A. Wilford and Sergeant C. Brockbank.
7. Care of Materials in the Field. Sergeant-Major A. Fletcher.
8. Care of Mechanical Transport. Sergts. F. Bullen and W. McCudden.
9. Use of Machine Tools, and Notes on Squadron Workshops. Sergeant-Major J. Starling and Sergeant-Major F. Unwin.

As regards the Committees, eight standing Committees were formed at the commencement of the Camp to consider various matters relating to the administration and organisation of the Corps on its social as well as its military side. The matters dealt with range from formulating a standard set of squadron mobilisation orders to the consideration of the N.C.Os. and men's employment association; and the programme provided for about eight sittings for each Committee during the period of the concentration. The Secretary of each Committee arranged the work, collected the required information, arranged for the conduct of such trials as were necessary, kept records of the proceedings and submitted the

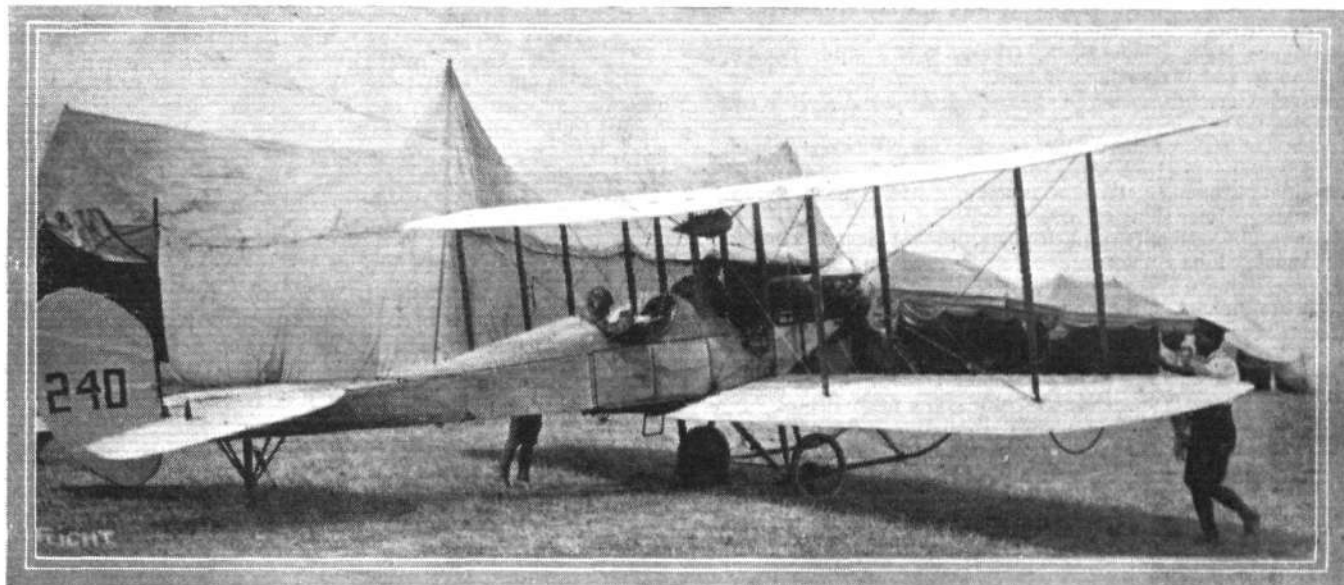
proceedings to the Commanding Officer on the completion of the investigation of a subject. Without doubt these meetings cannot fail to be productive of good to the Corps in general and the members of the Committee in particular.

General.—The experimental work which has for some time been conducted in wireless telegraphy has been vigorously continued since the concentration at Netheravon commenced. Messages have been sent from and received by the wireless officers over long distances, whilst flying in aeroplanes—the usual distance being of the order of 20 miles; but messages have been transmitted over distances nearly double this figure, and it is anticipated that much longer distances will be possible in the near future. It may be mentioned, as indicating the tremendous work which is now being done at Netheravon, that the distances covered by two wireless officers during last week totalled over 1,500 miles. There are two wireless stations in the Camp, one being immediately opposite the Officers' Quarters, while the other is at the rear of the temporary aeroplane sheds with the Headquarters Flight, both stations being completely equipped with the necessary apparatus for sending as well as receiving messages.

As regards photography, which is also, in the case of the visiting squadrons, attached to the Headquarters Flight, on each reconnaissance embodied in the scheme of training, an independent aeroplane has followed the aerial observers with a photographer as passenger, and the object which the machines taking part in the reconnaissance were required to locate has been photographed from a height of over 2,000 ft., so as to show to any observers who

qualities of an aeroplane, tests have been made on various machines in the squadrons to determine their speed ranges by flying them over a measured distance. The results of these experiments should prove highly interesting reading to constructors and others concerned with aeroplane maintenance—despite the influence of various important factors, and the fact that the slowest flying speed is so largely dependent upon the skill of the individual pilot—as at the present time little information is available as to the deterioration in performance, if any, but which probably does take place, in course of time. The results alone would, however, be of little value to our readers, as without some knowledge of the mileage flown and the treatment to which the machines have been subjected during their life, an entirely erroneous conception might be received as to the extent to which an aeroplane retains its capabilities in regard to speed. In addition, many machines, as is well known, have been largely rebuilt, and consequently their life cannot be regarded as in any way dating from the time they were originally purchased or taken into service.

So far the exercises have been remarkably free from grave mishaps. As is only to be expected in a camp of this character, where so much flying is daily indulged in, and in which the work is more or less of an experimental nature, some accidents are almost inevitable, especially as forced landings were necessary on several occasions. But it speaks volumes for the skill of the pilots and the excellence of their machines that in no case has there been any serious casualty, although more or less damage has been done to various parts of several of the machines. This is not without some



CONCENTRATION CAMP AT NETHERAVON.—A B.E. fitted with wireless equipment about to start on a cross-country flight.

failed to discover the enemy, the exact position in which he was located at the time the observations were made. As previously mentioned, several of these photographs are reproduced in this issue through the courtesy of Col. F. H. Sykes, Commandant of the R.F.C., and Major Musgrave, while, in addition, a photograph taken from an aeroplane at a height of 6,700 ft. also appears.

In addition, photographs of the country in the immediate vicinity of the camp have been made, and it would appear to be probable that a photographic survey of the whole country from above would prove of inestimable value to pilots, despite the changes in appearance of the ground at different seasons of the year; because the prominent landmarks would appear in the photograph, exactly as they appear to the pilot. The cameras used in the R.F.C. for aerial photography differ in no way from the usual type, and are fitted with ordinary Goerz lenses.

Meteorology, that very necessary and useful adjunct to the science of aeronautics, has not been neglected, as a skilled meteorologist is continually in residence at Netheravon, his office being situated behind the permanent sheds of Nos. 3 and 4 Squadrons. Daily observations are made, and a report, deduced from these as well as other records sent in, is issued during the evening, which gives a forecast of the weather for the next day. In addition, pilots on descending from a flight report their experiences as regards the direction of the wind and the condition of the atmosphere—such reports being noted on the notice boards in the Officers' mess.

With a view to ascertaining what effect age may have on the speed

benefit, as the necessary repairs and the transport of the machines provided excellent practice for these departments. The concentration, which commenced on June 2nd, closed on June 30th, and the squadrons were to disperse to their respective stations by the 2nd of July.

Under the arrangements a "gasbag," which represented a derelict airship, took part in one of the special exercises which were reserved for the last two days of the camp, when the effectiveness of the aeroplane in this particular branch of reconnaissance was fully demonstrated. The balloon was sent up at Highworth, about eight miles from Swindon and about fifty miles from the camp, and the majority of the twenty-five machines of various types which were despatched to find it succeeded in their mission.

In conclusion, we may say that the work we have indicated as having been carried out during the Netheravon exercises can only be regarded as representative in the mass of what has been going on day by day as a simple matter of routine among the squadrons at their home bases. Naturally, it would not be politic to give more than a general idea of what that work consists of and of how it is carried out by the officers and men who compose that magnificent arm, the Royal Flying Corps. To praise them for their work and their entire devotion to duty would be as offensive to them as it would be pleasing to ourselves—and in these matters it is others that we must think of first of all. We will, therefore, simply content ourselves by saying that never was a motto better chosen than that of the R.F.C.—"Per Ardua ad Astra."

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Diary of Events.

- July 11 ... International Correspondence Schools Race, London-Paris-London. Hendon Aerodrome.
 July 11 ... Balloon Race. Hurlingham Club, Fulham, S.W.
 Aug. 10-22 *Daily Mail* £5,000 Circuit of Britain Race. Starting from Southampton Water.
 Aug. 22-29 Gordon-Bennett Eliminating Trials. Upavon, Salisbury Plain.
 Sept. 19-28 Gordon-Bennett Aviation Race. Buc, France.

HENDON AERODROME.

Members of the Royal Aero Club are admitted free to the Hendon Aerodrome on presentation of their Club Membership Cards. The Membership Card admits the Member only—motor cars must be paid for.

COMMITTEE MEETING.

A Meeting of the Committee was held on Tuesday, June 30th, 1914, when there were present:—The Marquess of Tullibardine, M.V.O., D.S.O., M.P., in the Chair, Mr. Ernest C. Bucknall, Mr. John D. Dunville, Prof. A. K. Huntington, Mr. Alec Ogilvie, Mr. C. F. Pollock, Mr. T. O. M. Sopwith, and the Secretary.

New Members.—The following new members were elected:—John Laurence Hall, Lieut. D. A. Oliver, R.N., Marc Pourpe, P. D. Thomas, and Walter Jack Wilson.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

- 813 John Lankester Parker (Vickers Biplane, Vickers School, Brooklands). June 18th, 1914.
- 814 Reginald Chambers (Bristol Biplane, Bristol School, Brooklands). June 18th, 1914.
- 815 Laurence Gresley (Bristol Biplane, Bristol School, Brooklands). June 19th, 1914.
- 816 Lieut. Bernard Edward Smythies, R.E. (Bristol Biplane, Bristol School, Brooklands). June 19th, 1914.
- 817 Lieut. Francis Hermann Eberli, R.G.A. (Vickers Biplane, Vickers School, Brooklands). June 24th, 1914.
- 818 Midshipman Geoffrey Cayley Lambert Dalley, R.N. (Wright Biplane, Beatty School, Hendon). June 24th, 1914.
- 819 Lieut. Leslie Fitzroy Richard, R.G.A. (Bristol Biplane, Bristol School, Brooklands). June 24th, 1914.
- 820 Lieut. Charles Nugent (Royal Berks Regiment) (Bristol Biplane, Bristol School, Brooklands). June 24th, 1914.
- 821 Capt. Henry Edward Charles Walcot (Bristol Biplane, Bristol School, Brooklands). June 24th, 1914.
- 822 Lieut. Gordon Shergold Creed (S.A. Defence Force) (Maurice Farman Biplane, Central Flying School, Upavon). June 24th, 1914.
- 823 Lieut. Basil Hobson Turner (S.A. Defence Force) (Maurice Farman Biplane, Central Flying School, Upavon). June 24th, 1914.
- 824 Sub-Lieut. Herbert Graham Wanklyn, R.N.R. (Maurice Farman Biplane, Central Flying School, Upavon). June 24th, 1914.
- 825 John Gordon Miller (Vickers Biplane, Vickers School, Brooklands). June 26th, 1914.
- 826 Ronald Stuart McGregor (Caudron Biplane, Caudron School, Hendon). June 26th, 1914.

Explosives Factory at Harty, Isle of Sheppey.—It was decided to oppose the application of Nobel's Explosives Co., Ltd., for a licence to erect an explosive factory at Harty, Isle of Sheppey, and Prof. A. K. Huntington was appointed to represent the Club at the hearing on the 6th inst. at the Sittingbourne Petty Sessions.

Accidents Investigation Committee.—On the motion of the Chairman, the report on the fatal accident to Capt. Cyril Percy Downer was unanimously adopted and ordered to be published *in extenso*.

(Full report will be found following these Notices).

Daily Mail Circuit of Britain Race.—Letter from the Grahame-White Aviation Co., Ltd., asking for a postponement of the date of start, was read and the Secretary was instructed to ascertain the views of all competitors.

London-Paris-London Race.—Certain alterations in the regulations were made. (These alterations appear under the notices regarding this Race.)

Daily Mail £5,000 Circuit of Britain Race.

The entries for this race closed on June 30th last, and the following is a complete list of those received:—

Wm. Beardmore and Co., Ltd., London and Glasgow.
 Biplane. 120 h.p. Beardmore Austro-Daimler. Pilot: to be nominated.

Blackburn Aeroplane Co., Ltd., Leeds.

Blackburn Hydro-Biplane. 130 h.p. Dudbridge Salmson. Pilot: Mr. Sydney Pickles.

Eastbourne Aviation Co., Ltd., Eastbourne.

Tractor Biplane. 120 h.p. Green. Pilot: Mr. F. B. Fowler.]

Grahame-White Aviation Co., Ltd., Hendon.

Grahame-White Biplane. 100 h.p. English *monosoupape* Gnome. Pilot to be nominated.

A. V. Roe and Co., Ltd., Manchester.

Roe Biplane. 150 h.p. Sunbeam. Pilot: F. P. Raynham.

Sopwith Aviation Co., Ltd., Kingston-on-Thames.

1. Sopwith Biplane. 150 h.p. Sunbeam. Pilot: Mr. C. Howard Pixton.

2. Sopwith Biplane. 100 h.p. English *monosoupape* Gnome. Pilot: Mr. H. G. Hawker.

White and Thompson, Ltd., Bognor.

1. Curtiss Biplane. Two 100 h.p. Curtiss. Pilot: Mr. A. Loftus Bryan.

2. Curtiss Biplane. 120 h.p. Beardmore Austro-Daimler. Pilot: Capt. Ernest C. Bass.

The Committee at its meeting on Tuesday last considered the question of postponing the start of the Race till Monday, August 10th. All the competitors having agreed to this postponement, it has now been arranged for the contest to be open from Monday, August 10th, till Saturday, August 22nd, 1914.

Full details regarding the Race will be announced next week.

International Correspondence Schools Race. London-Paris-London.

(Under the Competition Rules of the Royal Aero Club.)
 Organised by the Royal Aero Club and the Aero-Club de France.

Starting and finishing at the Hendon Aerodrome,
 Hendon, N.W.

SATURDAY, JULY 11TH, 1914.

PRIZES.

Fastest Time... 1st Prize: £500. Presented by the International Correspondence Schools.

Handicap ... 1st Prize: £300. Presented by the Royal Aero Club. 2nd Prize: £150. Presented by the International Correspondence Schools. 3rd Prize: £50. Presented by the International Correspondence Schools.

The following are the entries:—

Grahame-White Aviation Co., Ltd.

Pilots: **Walter L. Brock.** Morane-Saulnier Monoplane. 80 h.p. Gnome.

R. H. Carr. Morane-Saulnier Monoplane. 80 h.p. Gnome.

(To be Nominated). Morane-Saulnier Monoplane. 80 h.p. Gnome.

Eugene Renaux (Pilot). Maurice Farman Biplane. 120 h.p. Renault.

John Carbery (Pilot). Bristol Biplane or Morane-Saulnier Monoplane. 80 h.p. Le Rhone.

Nieuport Company. Pilot: Probably **M. Bonnier.** Nieuport Monoplane.

Maxime Lenoir (Pilot). Ponnier Monoplane. 80 h.p. Gnome.

Deperdussin Company. Pilot: **A. Parmelin.** Deperdussin Monoplane. 80 h.p. *monosoupape* Gnome.

Martin and Handasyde. Pilot: **R. R. Skene.** Martinsyde Monoplane. 120 h.p. Austro-Daimler.

Thomas Elder Hearn (Pilot). Blériot Monoplane. 80 h.p. Gnome.

Aircraft Manufacturing Company. Pilot: **Pierre Verrier.** Farman Biplane.

The following alterations have been made to the Regulations:—
Order of Starting.—Competitors will be started in the order of their respective handicap times. The first competitor will start at 6.30 a.m., and other competitors at intervals of not less than 10 minutes.

Arrival in Paris.—The compulsory stop at the Buc Aerodrome has been extended to 2 hours.

The following are the officials at Hendon:—

Stewards—Col. H. C. L. Holden, C.B., F.R.S., Major F. Lindsay Lloyd.

Handicappers—Mr. J. H. Ledebor, Mr. A. G. Reynolds, Marquis J. de Lareinty Tholozan.

Timekeeper—Mr. A. G. Reynolds. *Clerk of the Course*—Mr. J. H. Ledebor.

Balloon Race at Hurlingham.

The Long-Distance Balloon Race for the Cup presented by Mr. A.

PUBLIC SAFETY AND ACCIDENTS INVESTIGATION COMMITTEE OF THE ROYAL AERO CLUB.

REPORT No. 24.

REPORT ON THE FATAL ACCIDENT TO CAPT. CYRIL PERCY DOWNER, WHEN FLYING AT THE CENTRAL FLYING SCHOOL, UPAVON, ON TUESDAY, MARCH 10TH, 1914, AT ABOUT 9.15 A.M.

Brief Description of the Accident.—Capt. C. P. Downer was flying a B.E. Biplane, No. 453, fitted with a 70 h.p. Renault engine, at the Central Flying School, Upavon, on Tuesday, March 10th, 1914, at about 9.15 a.m. It was the intention of the pilot to practise spiral descents, and he had reached a height of about 2,000 ft. From that height the aircraft was observed to descend in a steep spiral, the angle of descent being nearly vertical. After descending some 1,500 ft., and still about 500 ft. above the ground, the right wing collapsed upwards and a portion of the lower plane was observed to leave the aircraft. The aircraft then fell to the ground after making several turns and was completely wrecked. The pilot was killed.

Capt. Cyril Percy Downer (aged 36) was granted his Aviator's Certificate, No. 608, on August 29th, 1913, by the Royal Aero Club.

Report.—The Committee sat on Monday, March 30th, Tuesday, May 26th, and Tuesday, June 16th, 1914, and received the report of the Club's representative, who visited the scene of the accident within a short time of its occurrence, together with the evidence of eye-witnesses. The calculations of the design and results of tests carried to destruction on a similar aircraft were placed at the disposal of the Committee.

From the consideration of the evidence, the Committee regards the following facts as clearly established:—



FROM THE BRITISH

Royal Aero Club Eastchurch Flying Grounds.

Naval Flying.—Monday, fine, one machine only was up, No. 154 D.W.F. Tuesday fine, 43 Bristol tractor.

Wednesday, Nos. 43 and 153 Bristol tractors, 3 Short, 10 Short tractor, 70 and 188 Maurice Farman, 49 B.E., 31 Henry Farman.

Thursday fine, Nos. 103 Sopwith, 43 and 153 Bristol tractors, 154 D.W.F., 50 B.E., 70 and 146 Maurice Farman, 3 and 66 Gun Bus Shorts. Sir Francis Hopwood, the Civil Lord inspected the School and afterwards had a flight with Com. Samson.

Friday fine, Nos. 70 Maurice Farman, 50 B.E., 150 Avro. Saturday fine, Nos. 21 Short tractor, Sub-Lieut. Fowles to Isle of Grain and back, 146 Maurice Farman, 43 Bristol tractor.

Civilian Flying.—Mr. Alec Ogilvie was out several times during the week on his Wright biplane, 50 h.p. N.E.C.

Mr. Leo Jezzi was out on Thursday and Saturday evenings and also made three fine flights on Sunday evening, two solo and one with passenger, on his 35 h.p. J.A.P., own make biplane. Mr. Gordon, with Mr. Fairey as passenger, on 80 h.p. Sociable biplane, testing before handing over to the Admiralty.

Brooklands Aerodrome.

ARRANGEMENTS have been made for Mr. H. G. Hawker to give looping exhibitions on the 100 h.p. Sopwith Scout biplane every Sunday afternoon at Brooklands during the summer.

On Monday, last week, the Bristol and Blériot pupils were out. On Tuesday morning, Mr. Hawker to Farnborough on the 80 h.p. Sopwith Scout. In the afternoon, Mr. Goodden on 80 h.p. Morane, Mr. Gower on 50 h.p. Blériot, Mr. Goodden with Paul Gondre as passenger started for the North of England on the 80 h.p. Morane, Mr. Stutt on 50 h.p. Bristol, Mr. Knight on Vickers, Bristol, Vickers and Blériot pupils out, Mr. Alcock with Mr. Harold Lane as passenger to Hendon on 100 h.p. Sunbeam, Mr. Hawker solo and with passenger on 80 h.p. Sopwith.

Vickers, Blériot, and Bristol pupils out on Wednesday morning; in the afternoon Mr. Mahl across country on 80 Sopwith, Mr. Merriam with pupil on Bristol biplane, finishing with fine spiral landing, Mr. Gower across country on 50 Blériot, Mr. Hawker looping on the 100 Sopwith, Mr. Mahl with passengers and pupil, Mr. MacGordon, on 80 Sopwith. Vickers, Blériot, and Bristol pupils out. *Brevet* tests in good style by Lieuts. F. H. Eberli and L. F. Richards, Mr. C. Nugent, and Capt. Walcot,

Mortimer Singer was held at Hurlingham on Saturday last, and resulted in a win for Mrs. John Dunville in the "Banshee," piloted by Mr. John Dunville. The descent was made at Hythe, near Folkestone.

The next race, for the Hedges Butler Challenge Cup, will take place at Hurlingham on Saturday, July 11th, 1914.

Members will be admitted free to the Hurlingham Club on presentation of their Club Membership Cards.

166, Piccadilly, W. HAROLD E. PERRIN, Secretary.

1. The aircraft was built by Messrs. Vickers Ltd., in September, 1913.

2. The wind at the time of the accident was about 14 m.p.h.

3. Prior to the accident, the aircraft had been flown by another officer, who had found everything in good order.

4. An examination of the wrecked aircraft revealed the fact that the elevator planes were both bent downwards to the extent of several inches.

5. The control pillar was bent backwards.

6. The control wires were found to be intact.

7. A portion of the lower right wing was observed to leave the aircraft at a height of about 500 feet and was picked up about 25 yards away from the spot where the aircraft fell. A strut was also picked up some 40 yards away from the aircraft.

8. The aircraft was constructed in accordance with the official design and passed all the War Office tests.

9. The strength of the aircraft was up to the accepted standard.

Opinion.—The Committee is of opinion that the accident was solely due to the steep and protracted descent of the aircraft followed by an attempt, due to inexperience, to flatten out too suddenly when descending at an excessive speed, thus subjecting the aircraft to abnormal stresses and fracturing the wing.

The Committee is further of opinion that the bending of the elevator and control pillar was caused by the pilot's violent efforts to flatten out.



FLYING GROUNDS.

Mr. Gower across country on 50 Blériot, Thursday afternoon, and Mr. Hawker looping on 100 Sopwith.

Friday morning, Blériot, Vickers and Bristol pupils out. Brevet



Mr. R. H. Steinbach, who took his *brevet* at the Vickers Flying School, Brooklands, on June 6th.

tests in good style by Mr. J. G. Miller, altitude test, 2,500 ft.; in the afternoon, Mr. Gower on 50 Blériot, Mr. de Bolotoff taxiing on his triplane, Mr. Glew on the Perry Beadle biplane, Mr. Wilberforce on 45 Anzani Blériot, Mr. Hawker, looping on 100 Sopwith, Mr. Mahl out on 80 Sopwith, Mr. MacGordon (pupil) solo circuits on 80 Sopwith.

On Saturday morning, Vickers, Blériot and Bristol pupils out. Mr. Barnwell on Vickers gun 'bus and Mr. Stutt on Bristol. Mr. Jack Alcock on 100 Sunbeam, and Mr. Wilberforce on the 45 Anzani-Blériot; in the afternoon Mr. Hawker gave two fine looping demonstrations, one during the motor racing and one after. In the June Aeroplane Handicap (9 miles) 12 started out of 15 entrants, the machines being of all types and varying in speed from a sober old biplane sailing round at about 35 m.p.h. to the latest Sopwith production, piloted by Mr. Hawker, who had previously been timed to cover at the rate of 111 m.p.h. on it. It was the finest race ever held at Brooklands; at one time no less than six machines were together in the small space between the pylon and the railway. Mr. Mahl deserves every credit for his fine win on the 80 h.p. two-seater Sopwith, only just beating Mr. Alcock on the 100 h.p. Sunbeam engined Maurice Farman biplane, who in his turn was closely pressed by Mr. Barnwell on the 100 h.p. Vickers gun 'bus. Mr. Webb on the 50 h.p. Vickers biplane retired in the first lap. The other finishers were:—Mr. Pixton, 80 h.p. Sopwith Scout, Mr. Hawker, 100 h.p. Sopwith Scout, Mr. E. Gower, 50 h.p. Blériot, Mr. V. Wilberforce, 45 h.p. Anzani-Blériot, Mr. A. Knight, 70 h.p. Vickers biplane, Mr. T. W. Elsdon, 50 h.p. Vickers biplane, and Messrs. F. W. Merriam and W. Stutt, 50 h.p. Bristol biplanes. The Perry Beadle biplane, on which Mr. F. Glew was hoping to do great things, was unfortunately rendered *hors de combat* overnight by a landing carriage mishap. Mr. Robin Skene, the new pilot of the Martinsyde monoplane, found at the last moment that his machine would not be finished in time, but he hopes to render a very good account of himself in the coming Hendon-Paris-Hendon race. After the race a number of passengers made flights over the surrounding country.

Fine exhibition flights were made on Sunday by Messrs. Hawker and Pixton on 80 h.p. Sopwith Scouts, Mr. Mahl on the 80 h.p. Sopwith two-seater, Mr. Dukinfield Jones (just back from Germany, where, with Mr. Kny, he has been visiting the D.F.W. works) and Mr. Jack Alcock on the 100 h.p. Sunbeam. Mr. MacGordon (pupil) was flying well solo on the 80 h.p. Sopwith two-seater. A number of passengers were taken up by Messrs. Alcock, Mahl and Dukinfield Jones. The winner of the ballot for the free passenger flight—Master Charles Addison Doughty, of 69, Onslow Gardens, London, S.W.—went up for a long flight with Mr. Jack Alcock on the 100 h.p. Sunbeam.

Blériot School.—Under the instruction of M. Jules Teulade: Straights or rolling on 25 and 28 h.p. Anzani-Blériots—Lieut. M. North, 1 hr. 30 mins.; Mr. R. Crick, 30 mins.; Mr. H. O'Hagih, 34 mins.; Mr. W. South, 9 mins.; Capt. de Villiers, 18 mins. Mr. Victor Wilberforce, 10 mins. at 1,000 ft. on 45 h.p. Anzani-Blériot. E. L. Gower, cross-country flights on 50 h.p. Gnome-Blériot, amounting to 2½ hours. Two new 35 h.p. Anzani-Blériots for school work are expected to be out next week.

Bristol School.—Monday, last week, passenger tuition to Mr. Adamson and Lieut. Nugent (2), after which the weather was too bad for further work.

Tuesday, passenger tuition to Mr. Godwin, Lieut. Coles (three flights each), Lieut. Britten, Mr. Treloar and Mr. Collins (two flights each). Solos by Lieut. Nugent (2), Mr. Charlesworth (2),

Capt. Walcot (1), Lieut. Richard (2), Mr. Adamson (2), Mr. Treloar (1), and Mr. Rutledge (2).

Wednesday, as passengers: Capt. Bernard, Mr. Charlesworth, Lieut. Britten, Lieut. Nugent, Mr. Godwin (7), Lieut. Coles (4), Mr. Collins (5). Solos by Lieut. Richard, Mr. Charlesworth, Lieut. Nugent (2 each), Mr. Adamson, Mr. Treloar, and Mr. Rutledge (3 each).

Thursday, no school work possible.

Friday, as passengers: Lieut. Coles (3), Mr. Collins (2), Mr. Godwin (4). Solos by Mr. Charlesworth, Mr. Adamson, Mr. Treloar, and Mr. Rutledge (2 each).

Saturday, passenger tuition to Lieut. Britten, Mr. Godwin (4), Mr. Collins (5), and Lieut. Coles (4). Solos by Mr. Adamson and Mr. Treloar.

Vickers School.—Tuesday, last week, with instructor: Capt. Kane, Lieuts. Clemson and Warrant—Lieut. Eberli solo.

Wednesday, with instructor: Capt. Kane, Lieuts. Warrant and Clemson. Mr. Miller solo. Lieuts. Eberli and Warrant and Capt. Kane solos. Lieut. Eberli took *brevet* in splendid style.

Friday, with instructor: Lieut. Clemson, Capt. Kane, Mr. Gordon Miller took *brevet* in excellent style. Capt. Kane and Lieut. Warrant solos.

Liverpool Aviation School, Waterloo.

On Friday, last week, Melly took out two-seater, now fitted with Isaacson engine, and circled Southport, a distance of 30 miles, in 36 min., attaining a height of 4,000 ft. in 17 mins. This is the highest this machine has yet been up to.

On Tuesday, Osborn Groves was out rolling, but did not attempt to hop owing to strong wind.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Monday, last week, Messrs. Liu, Shepherd, Courtney straights with Instructors Barrs and Howarth. Mr. A. Boyesen solo circuits, figures of 8, &c., Mr. Upton (new pupil) rolling.

Tuesday, Messrs. Courtney, Liu, Shepherd straights with Instructor Howarth. Messrs. Robinson, Dunne and Boyesen solo circuits, &c. Mr. Upton rolling, and afterwards straights with Instructor Howarth.

Wednesday, Messrs. Palmer, Liu, Courtney, Wyles, Shepherd, Gruning and Upton straights with Instructors Howarth and Barrs. Messrs. North, Robinson, Lowe and Boyesen solo circuits.

Thursday, Messrs. Upton, Courtney, Wyles straights with Instructors Howarth and Lillywhite.

Friday, Messrs. Courtney, Liu, Shepherd straights with Instructor Howarth. Mr. Shepherd afterwards solo straights. Mr. Boyesen solo circuits, &c.

Saturday, Messrs. Upton, Liu, Courtney and Wyles straights with Instructor Howarth.

Beatty School.—During last week, pupils being instructed on dual control Wright biplanes with Instructors Baumann and W. Watts, Messrs. MacLachlan, 38 mins., Allen, 19, Bentley, 26, Hodgson, 32, Elverson, 10, Lieuts. Maguire, 50, Browning-Paterson, 29.

On Wednesday, Lieut. Geoffrey C. L. Dalley took his certificate in good style, he having joined the school on the 6th, and taking his certificate on the 24th.

British Caudron School.—On Monday, last week, the Caudron school was out at 5 a.m., under the instruction of W. T. Warren and R. Desoutter. Mr. Warren test flight, R. Desoutter flight. Mr. Abbott rolling and straights, getting in 1 hour's practice.

Tuesday, too windy for school, but Wednesday, school out at 5 a.m. W. T. Warren 15 mins. flight on 35 h.p. Caudron biplane. R. Desoutter two flights, each lasting about 10 mins.

Thursday, windy again and Friday, at 4.30 a.m. school out under the instruction of W. T. Warren and R. Desoutter. W. T. Warren and R. Desoutter test flight on 35 h.p. Caudron biplane. Mr. Macgregor doing several circuits and then going for his height test for finish of *brevet*, reaching to a height of 400 ft., and landing well.

School out Saturday at 5 a.m. W. T. Warren and R. Desoutter flight. Mrs. Buller two flights on 60 h.p. Caudron biplane. Mr. Abbott one hour on machine doing short flights.

Hall School.—Monday, last week, at 5 a.m., Mr. Clappen instructing, A. L. Brookes made three good circuits at a respectable altitude on No. 1 Caudron biplane.

Tuesday, gale; practice impossible. Wednesday, very windy. In evening, Miss Clifford made good circuits at 1,000 ft. on dual control Avro, two periods of 20 mins. each. Afterwards J. L. Hall flying on No. 1 Caudron was testing machine at high altitude. Roy Gibson doing hops on Anzani-Deperdussin monoplane.

Thursday, too windy in morning for practice. Friday, at 4 a.m. Henry Gearing and A. L. Brookes out on Caudron under Mr. Clappen.

Saturday, J. L. Hall exhibition flights, passenger carrying, and pylon racing on 50 Avro. Sunday. J. L. Hall exhibition flights and passenger carrying on Avro.



Photo by Miss R. Wallace Barr.

F. P. Raynham in flight at Scarborough on the Daily Mail Avro waterplane.

ROYAL NAVAL AIR SERVICE.

RE-ORGANISATION.

In our last issue we reproduced the full text of the Memorandum setting forth the scheme for the re-organisation of the Naval Wing of the Royal Flying Corps. We also gave in full the first appendix. Below will be found the remaining appendices:—

APPENDIX II.

Regulations for the Special Entry of Officers into the Royal Naval Air Service.

The following regulations are for the admission of candidates from civil life into the Royal Naval Air Service for service for a limited number of years. As a general rule candidates for admission must not be more than 23 nor less than 19 years of age on date of application. Employment in the first instance will be for four years, after which period officers entered under these regulations will pass into the Reserve for a further period of four years' service, unless their term of active service is extended or renewed. On completion of the first year of their engagement they may, if considered suitable, be allowed to extend their original engagement to a total of 6 years' continuous service; after 4 years' service to a total of 8 years; and after 6 years' service to a total of 10 years; or alternatively they may be permitted to renew their engagement on its completion in the ordinary course. The Admiralty reserve the right of offering further continuous service after 10 years, if their Lordships see fit to do so. In all cases active or continuous service will be followed by 4 years' service in the Reserve. The service will consist of employment in connection with any type of aircraft in any part of the world, either ashore or afloat. Candidates selected will be entered as Probationary Flight Sub-Lieutenants, Royal Navy, and will be granted commissions when duly qualified. Applications for admission should be made to the Secretary of the Admiralty, Whitehall, S.W. The form of application is to be filled in by the parent or guardian of the candidate, if he is not above the age of 21. These forms may be obtained from the Secretary of the Admiralty. Candidates must be of pure European descent, and the sons either of natural born or naturalised British subjects. In doubtful cases the burden of clear proof will rest upon the candidate. No nomination is required. Applicants who satisfy these conditions will be invited to appear before an Air Service Committee, who will interview each candidate, and examine credentials, which will have been furnished beforehand by the candidate. Details of the credentials required will be given in the application form referred to above. They will include reports from the headmaster of the last educational establishment the candidate attended, from persons under whose authority the candidate may have been during the preceding several years, or from persons who are well acquainted with the character of the candidate. The Committee will decide therefrom, on the suitability or otherwise of the candidate with regard to his abilities and general character, and will submit their recommendations to the Lords Commissioners of the Admiralty for decision. Candidates will be required to pass at the same time a medical examination according to the prescribed regulations as to their physical fitness for the Naval Air Service. Every candidate must be in good health and free from any physical defect of body, impediment of speech, defect of vision or hearing, and also from any predisposition to constitutional or hereditary disease or weakness of any kind, and be in all respects well developed and a good athlete. It should be particularly noted that full normal vision as determined by Snellen's test is required for candidates for the Naval Air Service. A memorandum is issued by the Admiralty which gives details of the physical requirements of candidates. The Committee will sit at least twice a year, generally in April and October. A list of selected candidates will be published by the Admiralty. Selected candidates may be required to obtain their Royal Aero Club pilot's certificate at a private school at their own expense. If required to do so the sum of £75 or such lesser sum expended by them in their tuition will be repaid them by the Admiralty on their obtaining their certificate. Such payment will not be made until after a reasonable period of probation, and will depend upon a satisfactory report being received from the Commanding Officer under whom the officer is serving. If a candidate is permitted to resign within four years of entry he may be required to refund this sum or part of it. Should a candidate fail to obtain his certificate within a reasonable time his name will be removed from the list. Candidates on appointment as Probationary Flight Sub-Lieutenants Royal Navy, will be appointed to undergo a course at one of the Royal Flying Corps Instructional Establishments. This course will last about four months, and will consist of practical and theoretical instruction in various branches of Air work. An examination will be held at the end of this course. The candidate, on completion of the school course, will be attached to an Air Station or Cruiser, and will be required to undergo an advanced course in seaplane work or

airship work, during which time he will also receive instruction in naval matters, rifle and machine gun drill, seamanship and boat work, and other special subjects connected with the Naval Air Service. On satisfactorily completing the above courses, which will take about a year, officers will be promoted to rank of Flight Lieutenant. Probationary officers may be required to withdraw at any time if in the opinion of the Lords Commissioners of the Admiralty (a) they fail to obtain a satisfactory standard; (b) their conduct is unsatisfactory; or (c) they are considered unsuitable for the Royal Naval Air Service. Parents or guardians of officers under the age of 21 must in all cases of permanent change of residence communicate the same to the Admiralty and to the Commanding Officer of the Naval Establishment in which their sons or wards are serving. Any officer who at any time is found to be unfitted for the duties of the Royal Naval Air Service will be liable to discharge to the Reserve or from the Service. This will not necessarily indicate that any blame is attributable to the officer. The special nature of the duties peculiar to the Air Service renders essential a very high standard of mental and physical fitness.

Reserve Service.—Officers not desirous of completing their active service may, at the discretion of the Admiralty, be permitted to transfer to the Reserve. Officers of the Royal Naval Air Service will be graded in one of the following ranks:—Flight Sub-Lieutenant with relative rank of Sub-Lieutenant, R.N. Flight Lieutenant as Lieutenant, R.N. Flight Commander as Lieutenant, R.N., over 4 years' seniority. Squadron Commander (when in command) as Lieutenant-Commander. Squadron Commander (when not in command) as Lieutenant over 4 years' seniority (but senior to all Flight Commanders). On attaining 8 years' seniority in the relative rank of Lieutenant these officers will rank with Lieutenant Commanders, R.N. Wing Commander with relative rank of Commander, R.N. Wing Captain as Captain R.N. The rates of pay for the various grades will be:—Flight Sub-Lieutenant, 10s. per diem. Flight Lieutenant, 12s. per diem, and 1s. per diem in addition for each year's service as Flight Lieutenant. (Max. 16s.) Flight Commander, 17s. per diem, and 2s. per diem in addition for each year's service as Flight Commander. (Max. 23s.) Squadron Commander, £1 5s. per diem. Wing Commander, £2 per diem. Wing Captain, £2 10s. per diem. Flying pay for Squadron Commanders, Flight Commanders, Flight Lieutenants, and Flight Sub-Lieutenants, 8s. per diem in addition to above rates. Whilst undergoing the first four months' course of their instruction officers will receive half Flying Pay at the above rate in addition to the pay of their flying rank. Whilst serving in the Royal Naval Air Service officers will rank and take command according to their grade and the date of their advancement to that grade. Officers entered direct from civil life under these regulations will be embarked in a ship of war at sea for a definite period in each year in order to identify them closely with the Royal Navy and for their general instruction. Their rates of pay will not be affected during these periods except that they will not receive Flying Pay. If at any time they are required to live in a military mess they will be granted a messing allowance of 2s. per diem in addition to their pay. This allowance will not be payable to Flight Sub-Lieutenants. If messing and accommodation is not provided for them officers will receive lodging and provision allowance in lieu as payable to officers of the Royal Navy. Whilst messed and accommodated they will be required to pay the same mess subscriptions, &c., as are paid by officers of the Royal Navy. Officers will be required to provide themselves with such uniform as is established for the Royal Naval Air Service. An outfit allowance of 40l. will be granted to officers entered under these regulations: 20l. of this sum will be paid on first entry and a subsequent 20l. after successful graduation at the termination of the four months' course at one of the Royal Flying Corps Instructional Establishments. During this course officers will only be required to provide themselves with a reduced kit. Officers who leave at their own request before the expiration of their first four years' service may be called upon to refund the whole or part of this sum. Any allowance for outfit paid in regard to service in the Naval Reserve Forces within three years previous to date of entering the Naval Air Service will be deducted from this sum. At the expiration of their active service officers will be eligible to receive a gratuity depending on the length of their service at the rate of 150l. for each completed year of service, including their probationary period. This gratuity will be paid to them on the expiration of their active service period. An officer retired at his own request, or for physical unfitness due to causes beyond his own control, may be awarded such gratuity as the Admiralty think fit, not exceeding 150l., for each completed year of service (including probationary service). Officers of the Royal Naval Air Service injured whilst flying, either on duty or when

undergoing a course of instruction at one of the Instructional Establishments, or privately with the permission of the Admiralty, will be eligible for pensions and gratuities under the same conditions and on the same scales as is the case of other officers of the Military Branch of the Royal Navy of their corresponding rank wounded in action. Officers injured on duty, but not while actually flying, will be treated as regards wounds, pensions and gratuities in the same manner as officers of corresponding rank in the Military Branch injured on duty, but not in action. The widows and children of officers dying whilst in the Royal Naval Air Service will, subject to the completion of the necessary period of commissioned service on the active list, be eligible for pensions and compassionate allowances under the same conditions and on the same scales as officers of corresponding rank in the Military Branch of the Royal Navy; but in the event of an officer's death being attributable to an injury sustained whilst flying, either on duty or when undergoing a course of instruction at one of the Instructional Establishments, and occurring within seven years of the date of such injury, the award of pensions, gratuities or compassionate allowances to the officer's widow and children or other relative will be made, irrespective of the length of service, under the conditions applicable to the case of officers of corresponding rank in the Military Branch of the Royal Navy killed in action. In the event of death resulting from an injury sustained on duty, but not whilst flying, any pensions and allowances awarded to dependent relatives will be on the scale and subject to the conditions laid down for officers of their corresponding rank in the Military Branch, whose deaths are attributable to injuries received on duty, but not in action. Probationary Flight Sub-Lieutenants will, if injured whilst flying, either on duty or when undergoing a course of instruction at any of the Instructional Establishments, or privately with the permission of the Admiralty, be eligible for pensions and gratuities under the same conditions and on the same scales as Sub-Lieutenants, Royal Navy, wounded in action, and in the event of death occurring as the result of such injury within seven years, pensions, &c., will be awarded to the officer's widow and children or other relative under the conditions applicable in the case of Sub-Lieutenants, Royal Navy, killed in action or dying of wounds received in action. Probationary Flight Sub-Lieutenants, if injured on duty but not whilst flying, will be awarded pensions and gratuities on the scales and subject to the conditions laid down for Sub-Lieutenants, Royal Navy, injured on duty, but not in action. In the event of death resulting from an injury sustained on duty but not whilst flying, any pensions and allowances awarded to dependent relatives will be on the scale and subject to the conditions laid down for Sub-Lieutenants, Royal Navy, whose deaths are attributable to injuries received on duty, but not in action. But in the event of a Probationary Flight Sub-Lieutenant dying during his period of probation from natural causes no pension or compassionate allowance will be granted to the widow, children, or other relatives of the officer.

APPENDIX III.

Conditions of Entry, Service, and Training for Civilians (Men).

1. Candidates are required to be between the ages of 18 and 30. The physical standard is as follows—

Age.	Height.	Chest.
Under 22	5 ft. 3 ins.	34½ ins.
22 and under 23	5 " 3 "	35 "
23 and over	5 " 3 "	35½ "

2. *Terms of Service.*—Men are required to engage for four years' active service, to be followed by four years in the Reserve. As a general principle a civilian entered as an Air Mechanic will not be advanced to Petty Officer Mechanic during his four years' service. Those men who are in all respects suitable may be advanced at the end of their four years' service, and given the opportunity of re-engaging for a second period of four years. Civilians who may enter as experienced artificers will commence as Chief Petty Officer Mechanics or Petty Officer Mechanics. As a general rule civilians entered under these regulations will not be allowed to remain for more than a second period of four years' active service, to be followed by four years in the Reserve. Extension of active service beyond this period will be for exceptional cases at the discretion of the Admiralty.

3. *Conditions of Service.*—All men selected will be liable to be detailed for any branch of the Royal Naval Air Service, i.e., for Seaplane, Aeroplane, Airship, Seaplane Ship, or Kite work, &c., and will be liable for duty either afloat or ashore and at home or abroad. The selection of a man for service does not necessarily imply that he will be trained as a pilot. Men to be trained as pilots will be specially selected from those who have joined the Royal Naval Air Service. Any rating who is at any time found to be unfitted for the duties of the Royal Naval Air Service will be

liable to discharge to the Reserve or from the Service. This will not necessarily imply that any blame is attributable to the man. The special nature of the duties peculiar to the Air Service renders essential a very high standard of mental and physical fitness.

4. *Qualifications.*—Candidates must have had experience in one or more of the following trades:—(a) General upkeep, construction, or repair of aircraft; erecting, trueing-up, &c. (b) Carpenter's work, joinery, cabinet-making, &c. (c) Boat-building. (d) Fabric work (airship or aeroplane). (e) Fitting, turning. (f) Care and maintenance and repair of petrol engines (i.e., men who have served in petrol motor engineering works are eligible). (g) Copper-smith's work. (h) Electrician's work. (i) Cycle mechanic. (k) Motor driver. In certain cases men may be accepted who have not the above qualifications, but who are of more than average intelligence.

5. Candidates will be required to pass an examination in education, up to Standard 4, Elementary Education Code, and also an examination in their trade qualifications before selection.

6. Candidates for entry should apply to one of the following officers, by whom, if accepted (see para. 7) they will be provisionally entered:—The Commodores of the Royal Naval Barracks at Chatham, Portsmouth, Devonport; Royal Naval Recruiting Offices at Chatham, 3, Military Road; Devonport, New Passage Hill; Portsmouth, The Hard, Portsea; Stratford, London, 73, The Grove, Stratford, E.; The Station Officer at any Coast Guard Station; The Royal Marine Recruiting Officer at any of the following towns: Belfast, 44, Clifton Street; Birmingham, 257, Broad Street; Exeter, 9, Goldsmith Street; Bristol, 17, Bath Street; Glasgow, 392, Argyle Street; Liverpool, 20, Canning Place; London, 7, Whitehall Place, S.W.; Manchester, 289, Deansgate; Nottingham, 27, Derby Road; Southampton, 48, Bridge Road; York, 41, Tanner Row. Application should be made by letter in the first instance, giving references as to character and full particulars as regards trade experience. If the application is entertained, candidates will receive full instructions as to their subsequent procedure. A candidate who has been provisionally entered receives food or an allowance in lieu, and his travelling expenses are paid to the place of final examination. If rejected at such examination a free pass back to his place of entry is granted him. Before a candidate can be provisionally entered he must pass the prescribed medical examination, arrangements for which will be made by the Recruiting Officer.

7. Candidates whose applications for entry are considered satisfactory will be instructed to present themselves for examination at the Naval Depot, Sheerness, on a selected date.

8. On satisfactorily passing the examination the candidates will be required to sign the prescribed form of engagement and will be given the rating of Air Mechanic, 2nd Grade. They will remain in the Naval Depot to receive their kit and for a course of technical and disciplinary instruction lasting about three months. On completing this course satisfactorily they will be attached to one of the Naval Air Stations or to a ship connected with the Air Service. In special cases men who show considerable technical experience will be rated Chief Petty Officer Mechanic or Petty Officer Mechanic on entry.

9. Promotion to the higher grades will be by selection on vacancies occurring, candidates having passed a standard educational and professional test.

10. The various grades are as follows:—

General Branch.	Engine Branch.	Artisan Branch.	Relative Naval Rate.
C.P.O. Mechanic—	C.P.O. Mech. (E)	C.P.O. Mech. (C)	
2nd Grade	2nd Grade	2nd Grade	C.P.O.
3rd Grade	3rd Grade	3rd Grade	C.P.O.
P.O. Mechanic	P.O. Mech. (E)	P.O. Mech. (C)	P.O.
Leading Mechanic	Leading Mech. (E)	Leading Mech. (C)	Leading Seaman
Air Mechanic—	Air Mech. (E)—	Air Mech. (C)—	
1st Grade	1st Grade	1st Grade	A.B.
2nd Grade	2nd Grade	2nd Grade	A.B.

Ratings will be selected to join one or other of these branches in accordance with their attainments and qualifications. Ratings will rank and take command within the Royal Naval Air Service according to their grade and their seniority in that grade.

11. The rates of pay of the various grades will be as follows:—Chief Petty Officer, Mechanic, 2nd Grade 9s. per diem, 3rd Grade 7s.; Petty Officer, Mechanic, 6s.; Leading Mechanic, 5s.; Air Mechanic, 1st Grade 4s., 2nd Grade 2s. Whilst under instruction as Pilot 1s. per diem flying pay will be paid in addition to these rates. Ratings qualified and employed as pilots of airships

will receive Airship Coxswain allowance at the rate of 4s. per diem continuously whilst so employed. Ratings qualified and employed as crews of airships will receive flying pay at the rate of 2s. per diem continuously whilst so employed. These airship allowances will be applicable to the permanent crews of any large "heavier than air" craft. Ratings who qualify for pilots will be eligible from the date of qualification for additional pay at the rate of 4s. per diem for first-class flying certificates, and 2s. per diem for second-class flying certificates. Men will be allowed to hold second-class flying-certificates for 12 months only. If they have not then qualified for a first-class certificate, it will be considered whether their second-class certificate should be retained. All ratings will receive good-conduct badges under the present naval regulations, and will receive additional pay at the rate of 1d. per diem for each badge that they possess.

12. As regards rations and accommodation, men will receive the same treatment as naval ratings, *i.e.*, they will be provided with quarters and rations, or if these are not provided they will be entitled to an allowance in lieu.

13. Free medical attendance is provided. When hurt or sick, pay is continued, according to the Naval Regulations.

14. On entry, a free kit will be provided. Men will be required subsequently to maintain this uniform at their own expense, as is the case with other naval ratings.

15. Men invalided for injury received during employment in the Air Service will be awarded pensions, either temporary or permanent, at the rates prescribed in the Naval Regulations for men discharged on account of wounds or hurts sustained in action. These rates vary from 6d. to 2s. per diem (with additions for Petty Officer Service, &c.) according to the nature of the injury and the degree of incapacity arising from it; or, at the discretion of the Admiralty, gratuities may be awarded in lieu. In the event of death occurring within seven years of such injury, and in consequence of it, widows or children will be eligible for pensions and allowances under the conditions laid down for men killed in action, or dying from wounds received in action, or discharged for wounds received in action. The amount of widows' pensions varies from 5s. to 9s. per week, and the allowance of each child dependent on the mother from 1s. 6d. to 2s. per week. The detailed conditions are as laid down in the King's Regulations and Admiralty Instructions.

16. The Royal Naval Air Service will generally be administered upon the same lines as the Royal Navy, and all members of it will be borne on the books of one of H.M. ships in commission and will be subject to the Naval Discipline Act.

Scheme of Training of Civilians (Men).

17. The preliminary training of men directly entered from civil life will be conducted at the Naval Depot, Sheerness, and not at the Royal Naval Air Stations. Classes will be formed and will be passed through a progressive programme which will change every fortnight. The course will last three months, and will thus be divided into six periods of a fortnight. Men selected for airships will be formed into separate classes to those for seaplanes, &c. The preliminary and disciplinary training will, however, be the same for all classes. Men entered direct as Chief Petty Officer Mechanics or Petty Officer Mechanics will also be formed into separate classes. The first six weeks' training will be entirely conducted at the Naval Depot. After this six weeks' instruction the seaplane classes will be sent daily to the Naval Flying School, Eastchurch, or to the Isle of Grain Air Station for practical instruction. The airship classes will be drafted to the Airship Training Station for this portion of their training. The three months' instruction will conclude with a general examination.

Subjects of Instruction.

The following will be the subjects of instruction and the general syllabus:—

By Lecture.—Principles of internal combustion engines. Principles of flight. Different types of aircraft. First aid. Materiel, strength, &c.

Practical Instruction (Technical).—*a.* Care and maintenance of engines. *b.* Stripping, assembling, and adjustments of types of engines in use in aircraft at the present time. *c.* Adjustments and repairs to aircraft. *d.* Care and maintenance of aircraft. *e.* Method of handling. *f.* Knots and small wire splicing. *g.* Metric system of measurement. *h.* Elementary knowledge of engineering terms, drawings, use of tools, &c. *j.* Names of various parts of machines. *k.* Repair of floats.

Naval Instruction.—*a.* Principles of naval discipline. *b.* Drill and physical drill. *c.* Pistol practice. *d.* Signalling, Morse and semaphore (selected men showing aptitude to undergo a higher course in Morse and elementary principles of wireless sufficient to enable them to be used as mechanic signalmen whilst passengers in aircraft). *e.* Use of the compass. *f.* Swimming. *g.* Boatwork.

Typical Programme of Instruction.

1st fortnight: Before breakfast, physical drill; forenoon, drill and technical instruction or lecture; p.m., drill and technical instruction. 2nd fortnight: Before breakfast, physical drill; forenoon, pistol practice and drill; p.m., technical instruction. 3rd fortnight: Before breakfast, physical drill; forenoon, lecture and technical instruction; p.m., drill and technical instruction. 4th fortnight: Airship classes to Airship Training Base for practical instruction. Other classes: Before breakfast, physical drill; forenoon, lecture and technical instruction; p.m., to Grain or Eastchurch for practical instruction. 5th and 6th fortnights, ditto.

APPENDIX IV.

General Conditions as regards Selection and Advancement of Ratings.

It is not intended that ratings drawn from the Fleet should sever their connection with the general naval service, and for this reason a close connection will be maintained between advancement in naval rating and advancement to a higher grade in the Royal Naval Air Service. As a general principle ratings will return to the Fleet on the completion of four years in the Royal Naval Air Service, and will not be eligible for re-selection for at least two years. It is desirable that during this period they should so far as practicable pass such examinations as may be necessary to qualify them for advancement in their naval rating. The following principles will be adopted as regards the selections of various ratings:—

Seamen.—Will be required to have at least one year's seagoing service as Able Seaman. It is desirable that they should have passed the examination for advancement to Leading Seaman. No men holding a higher non-substantive rating than S.G. or S.T. will be eligible for selection.

Engine-room Ratings.—Stokers will be required to be Stokers First Class, and to have passed through the Auxiliary Machinery Course. Men selected for the Air Service will be eligible for the three months' mechanical training course on reverting to the Fleet if recommended by the Inspecting Captain of Aircraft. Engine-room Artificers will be required to possess the necessary certificates to qualify them for advancement to Engine Room Artificer, 3rd Class. Mechanics will be eligible for selection after obtaining confirmation in their rank.

Telegraphists.—Will be required to have one year's service as Telegraphist. Service in the Royal Naval Air Service will count for the second year's service required for advancement. They will revert to the Fleet when they are rated Leading Telegraphist, and will be eligible for re-selection as P.O. Telegraphist.

Signalmen.—Will be required to have one year's sea service as Signalmen.

Marines.—Will be required to have one year's service afloat as private. The Regulations in regard to Advancement of Royal Marines serving in the Royal Naval Air Service are under consideration.

Electrical Artificers.—Will be required to possess the necessary certificates to qualify them for advancement to Electrical Artificers, 3rd Class.

Armourers and Armourers' Mates.—Will be eligible for selection at any period of their service, and will revert to the Fleet after four years' service, and will qualify for advancement in the ordinary manner.

Carpenter Ratings.—Carpenters' crews will be eligible for selection after one year's sea service. Shipwrights will be eligible for selection on advancement to Shipwright, 2nd Class. The following principles will be adopted in regard to advancement:—1. Advancement in naval rating will in all cases be made by the commodores of the depôts, and will be dependent on position on the rosters and the possession of full qualifications for such advancement. Advancement in Air Service grades will be regulated by the Air Department independently of the port divisions. 2. Arrangements will be made for those who, whilst in the Air Service, apply to pass for higher naval rating and who possess the qualifying service to attend at one of the naval centres (Appendix X, Part XVII., K.R. and A.I., Vol. II.), or on board ship as the case may require. 3. The recommendation of the Inspecting Captain of Aircraft will be counted as a seagoing recommendation in all respects. 4. During service in the Fleet, ratings who have been graded in the Royal Naval Air Service will revert in all respects to their naval rating of the Sea Service. 5. When men of Seamen class below the rating of Petty Officer who have been graded revert to the Fleet, they will hold the non-substantive rating "A" until they have qualified or requalified as S.G. or S.T. In no case will this non-substantive rating "A" be allowed for more than two years from the date of reversion to the Fleet. This will carry with it non-substantive pay at the rate of 3d. per diem. This non-substantive rating will not be granted to men who revert to the Fleet for misconduct, unsuitability, or at their own request. In reverting to the Fleet these ratings will, if recommended, be given an opportunity to qualify or

requalify as S.G. or S.T. During their service afloat they will be eligible for selection to qualify for higher "G" or "T" ratings, but such qualification will debar them from returning to the Royal Naval Air Service. Except in regard to qualifying courses ratings on reverting to the Fleet will usually be drafted to sea service. 6. In exceptional cases a man may be allowed to remain without reverting to the Fleet after his first four years' service, and he will then be eligible for advancement in Acting Air Service Grades as vacancies occur. He will not, however, receive any advancement in naval rating for which he has not fully qualified, and to which he is not entitled to by his position on the depot roster, and if he is at any time required to revert to the Fleet he will resume his naval rating in all respects. This option will, as a general rule, only be granted to those men whom it is desired to retain permanently in the Royal Naval Air Service. 7. In considering men for re-selection after their service in the Fleet preference will be given to those ratings who have qualified for advancement to Petty Officer in their Naval Rating. Men so qualified may be advanced to the grade of Acting Petty Officer Mechanic as vacancies occur, but will not be confirmed in this grade until they have been advanced to Petty Officer in their Naval Rating. 8. As a general principle Leading Rates and below will not be advanced beyond the grade of Leading Mechanic during their first four years' service in the Royal Naval Air Service. 9. All grades in the Royal Naval Air Service are liable to be taken away for misconduct or incompetence under the present Naval regulations for disrating. As a general principle a reduction in grade for misconduct will be accompanied by a corresponding reduction in Naval Rating. 10. For all purposes of naval pensions the Naval Rating and the Air Service grade will be taken into account, the men being given the benefit of the higher rating for pension purposes. 11. It is recognised that this scheme will take some time to establish in working order, particularly as regards the higher ratings, and it has, therefore, been decided as a temporary measure to establish the

following methods of obtaining Petty Officers:—(i) To select Petty Officers who may volunteer from the general Naval Service. Petty Officers who have had no previous Air Service Experience will only be taken until time renders it practicable to establish this system of re-selection. They will be graded Petty Officer Mechanics. (ii) To advance to an acting naval rating those men who have been pioneers in the Royal Naval Air Service, irrespective of their sea-going qualifications, on the understanding that they are required for permanent retention in the Air Service, and that if they subsequently desire to return to or are sent back to the Fleet, they will be required to qualify for their naval rating. If they fail to qualify educationally and professionally within one year they will revert to their former naval rating. If they qualify, they will receive special consideration as regards confirmation in their naval rating. All men so rated will be eligible for advancement in the Royal Naval Air Service grade as vacancies occur. A suitable notation will be made on their service certificates to show the conditions which they have accepted.

12. *Civilians.*—To maintain the relative equality between the naval ratings and the civilian direct entries, it will be a general principle that a civilian entered as an Air Mechanic will not be advanced to Petty Officer Mechanic during his first four years' service. Those men who are in all respects suitable will be given an opportunity of re-engaging for a second period of four years, and will then be eligible for selection for advancement to Petty Officer Mechanic to fill vacancies. Civilians who may enter as experienced artificers will commence as Chief Petty Officer Mechanic or Petty Officer Mechanic. As a general principle civilian ratings will not be allowed to remain for more than a second period of four years' active service, to be followed by four years in the Reserve, *i.e.*, 12 years in all. Extension of active service will only be allowed in exceptional cases at the discretion of the Admiralty.

FLYING AT HENDON.

ALTHOUGH it was fine and sunny on Thursday afternoon of last week, a stiff wind prevented much flying from being done. A. E. Barrs, R. J. Lillywhite and Louis Noel, however, put up several exhibition and passenger flights. The first up was Lillywhite on the 50 h.p. G.-W. bi-rudder 'bus, Noel following shortly after on the 70 h.p. Maurice Farman. Both pilots made their other flights on these respective machines, whilst Barrs piloted Lillywhite's machine.

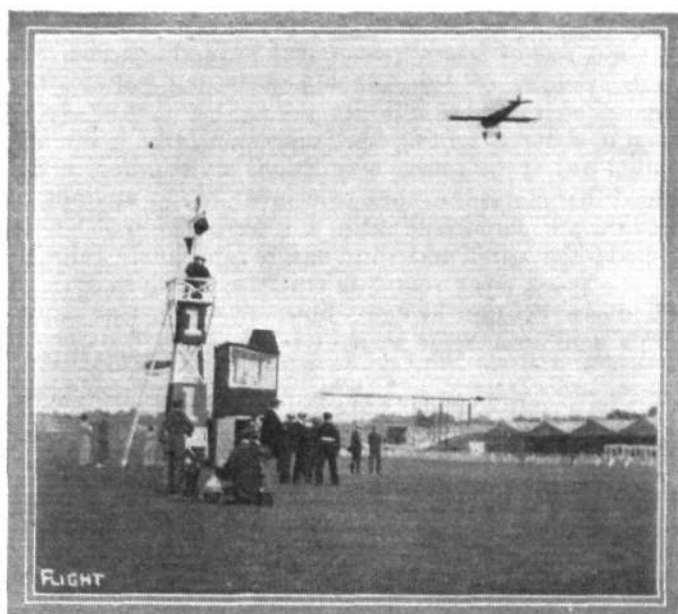
Last Saturday's flying opened shortly after 2.30 p.m. with a flight by R. J. Lillywhite on the 50 h.p. G.-W. bi-rudder 'bus, the principal feature of which was a *finale* of spirals. The next flights were made by W. Birchenough on the 70 h.p. Maurice Farman, and A. E. Barrs on the 80 h.p. Blériot, both with passengers. Later



Louis Noel, who on Saturday put up a new speed record for Hendon Aerodrome, receiving from the donor the miniature replica, as consolation prize, of the handsome cup seen on the table, presented by Mrs. Manio for competition, and secured by R. H. Carr on June 13th, in the cross-country race.

on four pilots went up one after the other, P. Bjorklund on his 50 h.p. Blériot, Lillywhite the 80 h.p. Blériot, Louis Noel on the Maurice Farman, and Barrs on the G.-W. 'bus No. 107. Bjorklund ascended to an altitude of several thousand feet, and Noel executed some of his remarkable switchbacks. Three more flyers then came out, these being P. Verrier with a passenger on the 70 h.p. Aircraft-Maurice Farman, J. L. Hall on his 50 h.p. Avro, and E. Baumann on the 50 h.p. Gyro-Wright. Three passengers were then taken up by Noel on the 80 h.p. Blériot, Birchenough on the Maurice Farman, and Lillywhite on the bi-rudder 'bus. The canvas screen which has been erected by the Grahame-White Co. alongside the railway with the idea of preventing the numerous "hedge tickets" that gather on Hendon Hill from seeing into the aerodrome, was carried away, either by a desire also to fly, or by the wind, for a portion of it made a short flight.

After having suffered several postponements due to bad weather, the speed contest for the "Shell" Trophy was then flown off. It was not, however, until the final heat had been completed that Mr. J. Cates—representing "Shell"—assumed a less anxious look. The first heat of four laps was made up of the following: N. Howarth on the bi-rudder 'bus (2 mins. 22 secs.); W. Birchenough on the Maurice Farman (1 min. 35 secs.); A. E. Barrs with a passenger on the 80 h.p. Blériot (27 secs.); and Louis Noel on a new 80 h.p. Gnome-Morane-Saulnier built at the G.-W. works (scratch). Noel's new Morane developed a remarkable turn of speed and brought him in an easy first, Birchenough coming in second 14 seconds after; Barrs was third, 4 seconds behind Birchenough. Four also started in the second heat (4 laps) as follows: E. Baumann on the 50 h.p. Gyro-Wright (2 mins. 10 secs.); R. J. Lillywhite on the bi-rudder 'bus (1 min. 12 secs.); J. L. Hall on the 50 h.p. Avro (12 secs.), and P. Verrier on the 70 h.p. Maurice Farman (scratch). Hall and Verrier both flew an excellent course, and came in first and second respectively with 20 secs. between them. Verrier passed Baumann at the last moment, and was only $\frac{3}{4}$ secs. in front of the latter. Lillywhite suffered from engine trouble, and came in last $4\frac{3}{4}$ secs. after Baumann. The final heat was over eight laps, and the starters were: Birchenough (3 mins. 23 secs.), Verrier (2 mins. 57 secs.), Hall (2 min. 31 secs.), and Noel (scratch). In this heat Noel simply romped home, and by the time he had completed his eighth lap he was nearly a lap in front of the others. He thought, however, that he was behind instead of in front, and so completed another lap, hoping to catch the others up, and in this he was successful, for as they completed their eighth lap he crossed the line just in front of Birchenough, who was fourth. The second man, Verrier, was 55 secs. behind Noel, and 11 secs. in front of Hall, 4 secs. separating the latter and Birchenough. Incidentally Noel beat the aerodrome speed record, formerly held by F. P. Raynham on the 80 h.p. Avro biplane, for his average speed was 73.4 m.p.h. In between the first and second heats, Noel took up two ladies on the Maurice Farman—one at a time—whilst Lillywhite also took up a lady on the bi-rudder 'bus, and Bjorklund made another flight on his Blériot. A few more flights were made after the final heat before the proceedings were brought to a close, the flyers being Bjorklund on the Blériot, Baumann on the 50 h.p. Gyro-Wright, Watts on the 40 h.p. Wright (Wright engine), Noel on the Maurice Farman, Verrier on a similar machine up very high,



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Louis Noel, on the 80 h.p. Morane-Saulnier, after having finished first in the final heat of the speed handicap at Hendon last Saturday, completing an extra lap whilst the other competitors are finishing the heat.

F. G. Dunn on the bi-rudder 'bus—his first exhibition flight—Barrs with a passenger on the 80 h.p. Blériot, and N. Howarth on a new mount for him, the Maurice Farman.

Final Heat (8 Laps) of Speed Handicap for "Shell" Trophy and 50 Guineas.

	Handicap.	Handicap
	m. s.	m. s.
1. Louis Noel (80 h.p. Morane-Saulnier mono-plane)	scratch	12 31
2. P. Verrier (70 h.p. Maurice Farman biplane)	2 57	13 26
3. J. L. Hall (50 h.p. Avro biplane)	2 31	13 27
4. W. Birchenough (70 h.p. M. Farman biplane)	3 23	13 40

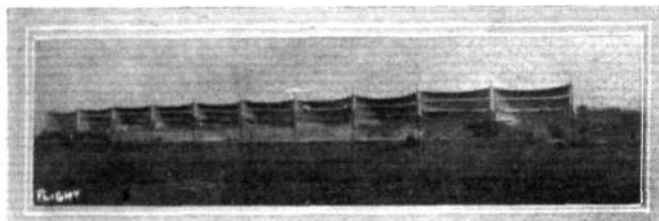
A very successful meeting was held the next afternoon, Sunday, there being plenty of sunshine, visitors and flying. The first up was R. J. Lillywhite on the 80 h.p. Blériot, and Louis Noel made some very fine flights on the new 80 h.p. Morane-Saulnier. Pierre Verrier took up many passengers and played all sorts of tricks on the 70 h.p. Aircraft-Maurice Farman, whilst W. Birchenough was busy with passengers on the G.-W. Maurice Farman. Other flyers out during the afternoon were J. L. Hall on his 50 h.p. Avro, A. E. Barrs with passengers on the Blériot, and N. Howarth on the G.-W. 'bus.



THE ARMoured NIEUPORT MONOPLANE WHICH HAS DONE SO WELL DURING ITS TRIALS.—This machine is covered in front with special nickel-steel armour plate of 3 mm. thickness. The chief characteristics are: Span, 40 ft. 6 ins.; length 26 ft. 6 ins.; area, 251 sq. ft.; weight, empty, 1,433 lbs.; useful load includes pilot, gunner, gun and ammunition with petrol for 2 hours; engine, 160 h.p. Gnome; diameter of propeller, 8 ft. 9 ins.; speed with full load, 74.5 m.p.h.; climbing 1,640 ft. in 7 mins.; starting after run of 328 ft.; alighting and stopping after run of 262 ft.

EDDIES.

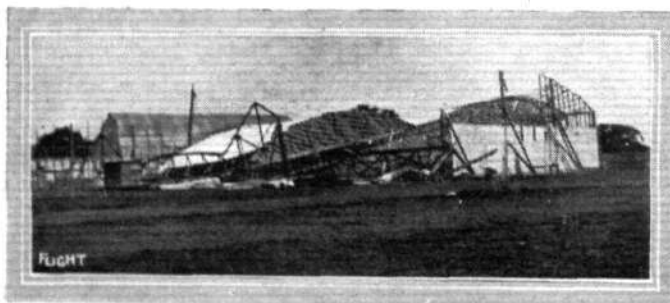
A LONG row of masts erected at the Hendon aerodrome in the vicinity of No. 2 pylon, near the railway, has aroused considerable curiosity among visitors to the flying ground, some hazarding the suggestion that a wireless station was in the course of erection, whilst others maintained that it was the commencement of an attempt to provide the aerodrome with a screen high enough to exclude the wind and thus ensure absolutely calm air for the speed races round the pylons. The purpose of the masts became evident, however, when the canvas strips were hoisted, as seen in our photograph, since it



This is not a huge triplane, but the new "screen" protecting the Hendon Aerodrome from the spying eyes of the "hill deadheads."

was then realised that the canvas very effectively hid the hill from view, by old Hendon Church. It is no uncommon sight for this field on race days to be black with people who, for the modest sum of threepence, obtain an excellent view of the aerodrome. The canvas screen, whilst not of course extending sufficiently high to prevent people from seeing the machines when in the air, prevents them from witnessing the start and finish of a race, and also the greater part of the course round the pylons, so that it would appear the "deadheads of the hill" will have to sport another threepence and go down to the proper enclosure within the aerodrome.

It is evident that not only does the design of large size machines present problems for the aeroplane designer, but that constructors of sheds in which to house them are also "up against it." The Grahame-White Aviation Co. were having a large hangar erected, the dimensions of which were 200 ft. by 100 ft. As this hangar was



The collapsed hangar at Hendon.

intended to house a very large machine, (a trans-Atlantic 'bus it is rumoured) all central supports of the roof had been dispensed with, but before the building was finished the whole thing collapsed. Fortunately nobody was hurt and, moreover, as the Grahame-White Co. did not build the shed themselves, beyond the consequent delay, they are never one penny the worse for the mishap.

The other day when travelling on the Tube, I happened next to a passenger who was deeply absorbed in the study

of a copy of FLIGHT. We had stopped at Hampstead, and the starting bells were tinkling along the train. Just as the conductor on the first car gave the all clear signal, my neighbour looked up and seeing the name of the station he made for the door, but too late! He had to proceed to Golders Green. My modesty prevents me from saying what page of FLIGHT he was reading.

A friend of mine related the following amusing incident the other day: His radiator has a nasty knack of leaking, and so as a precaution he usually carries an extra supply of water for replenishment. Leaving his car for a few minutes some time ago he noticed on returning to it that the petrol tin in which he carried his extra supply of water had been shifted. On examining the tin he found it empty. After driving along a short distance he overtook another car that had stopped. My friend also stopped and inquired what the trouble was, and was greatly amused when the driver of the other car replied: "Some blithering idiot has put water in my petrol tank."

The Perry Beadle tractor biplane was taken out for a few short flights on Friday last and appeared to behave very well indeed, the pilot doing short banked turns. Unfortunately a wheel buckled on alighting and let the machine down on her skids, with the result that she turned completely over. With the exception of a broken propeller, surprisingly little damage was done, and the machine is expected to be out again in a few days.

I see that a German pilot has established a new world's record for duration by flying for 21 hrs. 49 mins. on an Albatros military biplane. The name of the pilot is given as Herr Landmann, but it seems to me that his truly is a misnomer—it surely ought to have been Herr Air-mann.

Mr. C. Kny has now returned from his recent trip to Germany, and as a result from his visit three D.F.W. machines will arrive at Brooklands shortly. One is a military all-steel biplane which is credited with a climbing capability of 1,000 ft. per min. with full military load. The second machine is a fast military-type biplane which is very stable, whilst the third is a scout of the Arrow type. Each of these machines will be fitted with 120 h.p. Beardmore-Austro-Daimler engines, British built of course. In the hands of such capable pilots as Lieut. Collett (late R.N.) and Mr. Dukinfield Jones, these new D.F.W. biplanes should put in some fine work.

I had a chat with Mr. Dukinfield Jones the other day after his return from Germany, where he has spent some time at various aerodromes and aeroplane factories. Mr. Jones is very enthusiastic over the excellent works in which the D.F.W. machines are built. The works are so arranged, that the raw materials enter the stores and shops at one end of the buildings, and the complete machines emerge from the other end, which faces the hangars situated a short distance away. These hangars are fitted with doors both ends, and the machines arriving from the works enter the hangars at the back, and are wheeled out on to the flying ground through the front doors, which all run on trolleys. In addition to the splendidly organised factory, there are spacious suites of offices and numerous club rooms for pilots, civilian

pupils, officer pupils, sapper pupils, &c. Mr. Jones was very impressed with the military precision with which the school work is carried out. For instance, when the afternoon flying commences at 5 o'clock all doors are swung open and the machines are wheeled out. The instructors are all there and each machine is looked after by two mechanics. The pupils are then put



Mr. Noel just "off" on his Morane at Hendon.

through the various practices according to the degree of proficiency they have attained. Progress at the school is very fast as the 75 h.p. school machines are particularly easy to handle. Mr. Jones is looking forward to the arrival of the new machines at Brooklands, as he is very anxious to see what he can do on a really fast machine.

x x x

The James brothers, who, it will be remembered, got their ticket at the Caudron School at Hendon, and who have been doing a considerable amount of flying in Wales on a machine of their own make, are now in a position to commercially manufacture their machines, and have established an aeroplane factory at Narberth, their home town. They can thus claim to have established the first Welsh aeroplane factory. I feel sure that our readers will join me in wishing them every success in the venture.

x x x

It is a sure sign that Marcus D. Manton is beginning to acquire fame by his flying, for he has now been added to the list of pilots who are popularly supposed to be dying of consumption. Judging from appearances, however, I don't think anybody could accuse him of being after the fading away stakes.

x x x

It was indeed a narrow escape which Mr. Hawker had the other day at Brooklands, when he fell from a height of over 1,000 ft. in his Sopwith biplane. According to eye-witnesses, Hawker had just made a loop with his engine shut off, in order to make the loop as slowly as possible. On reaching the top of the curve, the machine appeared to stop, or at least hesitate for a moment, and then fell out of the inverted position sideways. After dropping nose first, whilst spinning round its longitudinal axis, the machine appeared to flatten out when a couple of hundred feet from the ground, but was then seen to dive again and disappear behind the trees. Everybody thought that the worst had happened, but when the spot where the machine had fallen was reached by those who had rushed from the aerodrome, Hawker had already gone off on the carrier of a motor cycle. It appears that the machine had

flattened out just before reaching the ground, and had charged into the top of a tree, where it hung a few precious moments before dropping to the ground. Hawker was practically unhurt, and on Sunday (the next day) he was flying again!

x x x

Considerable enthusiasm was aroused "down south" the other day by an aeroplane v. motor car race from the Brighton-Shoreham aerodrome to Worthing Pier and back, a distance of nine miles. Mr. Cecil Pashley was the pilot of the aeroplane, while Capt. Tyrer was at the wheel of a 15-20 h.p. car. Both started from the aerodrome at 6.55 p.m., but Mr. Pashley was handicapped on the outward journey by a strong head wind, and as a matter of fact he was only half way to the pier by the time Capt. Tyrer had reached the turning point. On the return trip, however, the tables were turned, Mr. Pashley having the advantage of the following wind, and he just romped home over the 4½ miles in under 4 mins., so that he was an easy winner with 4 mins. to spare. Mr. Pashley's time for the complete course was 14 mins., while Captain Tyrer took 18 mins. By the way, I understand that at one of the forthcoming meetings which are being arranged at this aerodrome the British Petroleum Co. (Shell) will offer a valuable trophy.

x x x

What I have seen in the past of various functions got up by the "Profession" leads me to anticipate plenty of fun in store for those who visit Hendon next Tuesday on the occasion of the Charity Carnival and Aviation Day in aid of Joe Elvin's scheme for a Music Hall Convalescent Home. In addition to the usual exhibition



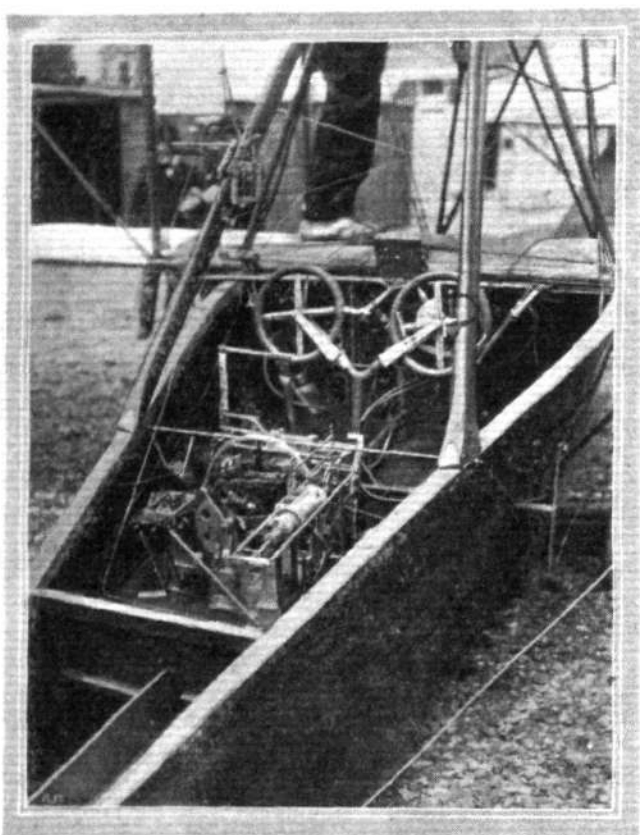
Mr. J. D. North, chief designer to the Grahame-White Aviation Co., in a new rôle. He is here seen "flagging" the machines at the end of a speed race.

and passenger flights, and a speed race in which actresses will be carried as passengers, there will be numerous other forms of entertainments, including an attempt to fly the "Atlantic" by three well-known "pilots"—Harry Tate, Harry Weldon and Joe Elvin. I believe Mr. North has designed the three machines specially for the occasion on Gulf Stream lines. There will also be a grand speed race for four-wheeled cabs. Miss Fay Compton and Mr. Lauri de Frece will sell by auction passenger flights, vaudeville entertainments will be given by a large number of music hall "stars" on the stage in the paddock enclosure, and—Phew! it's too hot to write all the rest, so "Go and see."

"ÆOLUS."

TESTING THE SPERRY-CURTISS STABILIZER.

SOME very interesting demonstrations are reported to have been made with the Sperry stabilizer fitted on a Curtiss flying boat, in



The gyroscopic installation on the Sperry-Curtiss machine.

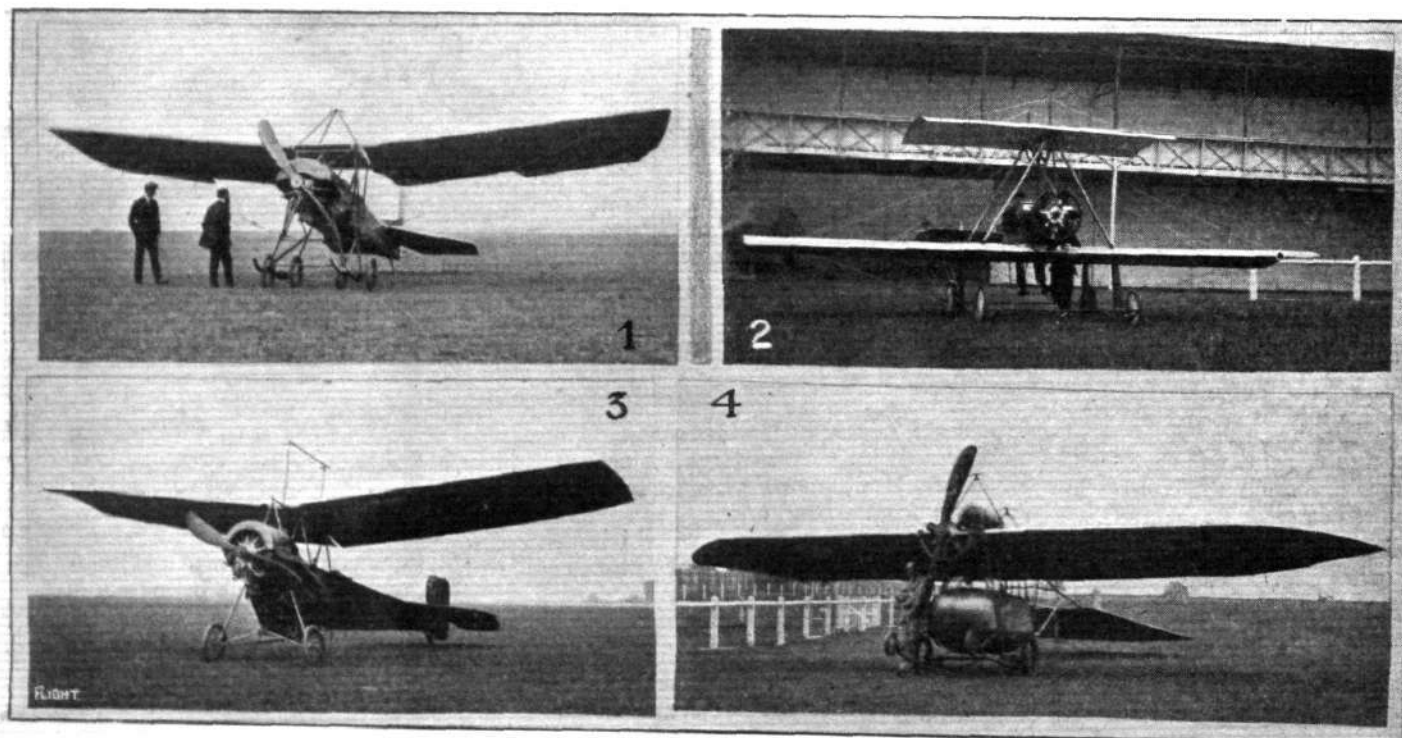
connection with the "Concours de la sécurité en aéroplane" on Friday week. The scene of the demonstrations was the Seine at Bezons, and the tests were carried out under the official observation of the judges of the competition. Piloted by Mr. Sperry, Jun., the son of the inventor of the gyroscopic stabilizer, the Curtiss flying boat left the water easily and rose to a height of about 400 ft. The mechanic was then seen to leave his seat and walk out along the lower plane, whilst the pilot held his hands above his head in order to show that the machine was controlled by the stabilizer only. This performance was repeated several times, and on another flight Mr. Sperry was accompanied by one of the judges—Commandant Barrès—in order to make absolutely certain that the pilot did not use the controls.

The Sperry gyroscopic stabilizer consists of a quadruple gyroscope actuating the ailerons and elevator, and driven by the engine at the rate of 12,000 r.p.m. The longitudinal attitude of the machine is regulated by means of a small wind vane (which is seen in our photograph at the top left, attached to one of the engine struts) actuating one of the gyroscopes. If the speed of the machine drops below a certain limit, the vane depresses the elevator through the intermediary of the gyroscope. If, on the other hand, the speed is increased owing to a dive, the elevator is pulled up so as to "flatten out" the path of the machine. A clutch is provided by means of which the gyroscopes can be brought into or put out of action at the will of the pilot.



Manton at Malton.

AT the annual fête in aid of the Malton Cottage Hospital on June 25th, Mr. Manton gave a fine exhibition, including 13 loops and one upside down flight. At 2.30 Mr. Manton took his seat in the 50 h.p. Blériot, started away giving a ten minutes' exhibition of fancy flying, banking, and switchbacking, &c., and did not appear to be bothered by the somewhat tricky state of the atmosphere. On landing the machine came almost immediately to a standstill owing to the uphill nature of the ground, but this was rather a disadvantage for getting away, while over the crest of the hill the machine encountered one or two severe bumps. In the evening the conditions improved and, if anything, Mr. Manton gave an even better demonstration than in the afternoon.



Photos by Mr. F. Oswald Watt.

A FEW OF THE MACHINES COMPETING IN THE "CONCOURS DE LA SÉCURITÉ EN AÉROPLANE."—1. The Deperdussin monoplane, total visibility type with automatic stability. 2. The only British machine entered for the competition—the Watson rocking wing aeroplane. We are told by Mr. Summerfield, of Melton Mowbray, who piloted this machine, that the "Watson" was ruled out of the competition for no apparent reason, as it flew quite well once Mr. Summerfield got used to the rather novel control. 3. The R.E.P. monoplane, total visibility type, which is fitted with standard control. 4. The Moreau "Aerostable," which was exhibited at the last Paris Aero Show, when we gave a description of it.

THE FLYING MACHINE FROM AN ENGINEERING STANDPOINT.

By FREDERICK WILLIAM LANCHESTER, M.Inst.C.E.

(Continued from page 692.)

12. *Landing Gear.* 8. The question of alighting mechanism detail next claims our attention; this is necessarily of two distinct types depending upon whether the machine is designed for land or for marine usage. Taking first the land or military type of machine, the essential features comprise ordinarily a pair of pneumatic-shod wheels (in some cases two pairs) arranged on a common axis somewhat forward of the centre of gravity of the machine, and supplied

the intention being to take care of the relative motion of the ground when alighting across the wind*; experience appears to show that with reasonably careful handling this provision is unnecessary. Two types of suspension are illustrated in Figs. 31 (R.A.F.) and 32 (Blériot); it will be noted that in both cases the medium employed to absorb the shock is rubber; this is preferable to steel (as universally employed on road vehicles) for two reasons: firstly, the

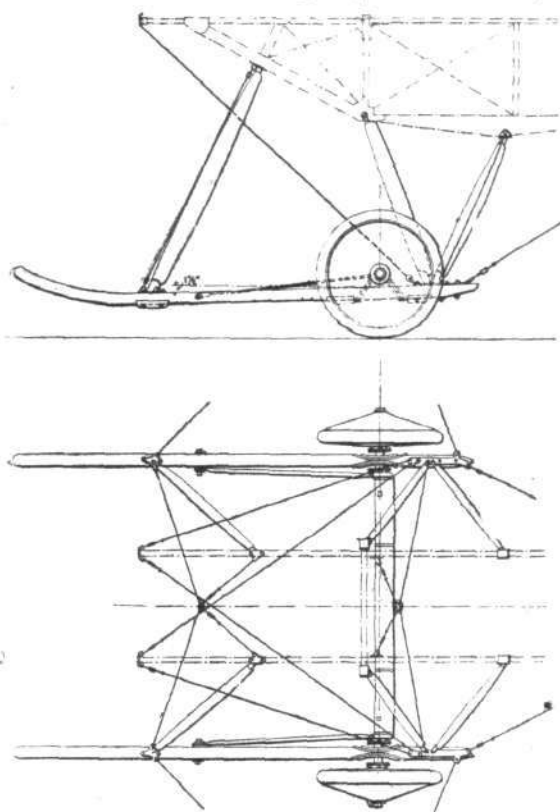


Fig. 31.

with a rudimentary elastic suspension of some form, in addition to runners or skids to take the "bump" in emergency, and the provision of some kind of temporary tail support, consisting either

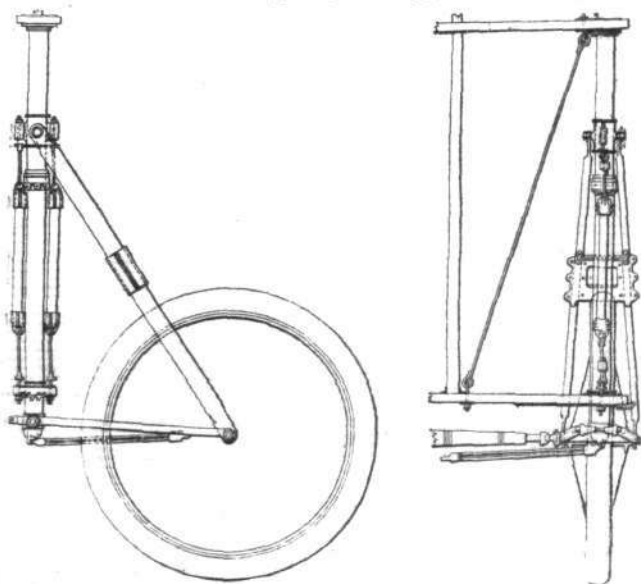


Fig. 32.

of a castor-pivoted wheel, or (as more generally the case) of a simple spring-controlled skid. It was at one time believed to be essential that the alighting wheels should be all castor-pivoted or orientable,

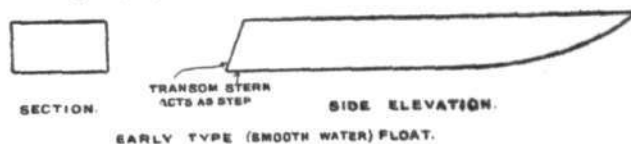
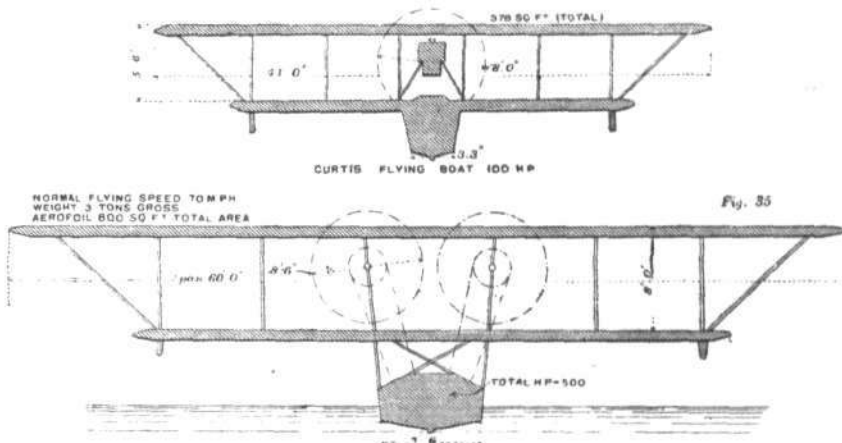


Fig. 33.

energy good vulcanized rubber will absorb is far greater than is the case for steel; it runs to some 500 to 1,000 lbs. per lb. (some 10 or 20 foot-lbs. is all that may be allowed for steel); and secondly, the signs of fatigue in rubber are evident to the most casual observer and the rubbers are cheap and easy of replacement. The alighting wheels with their associated parts are mounted on a structure commonly known as the landing chassis whose function is to raise the machine



Figs. 34 and 35.

proper a sufficient height above the ground to provide clearance for the propeller, aerofoil, &c.; unless careful design and workmanship is put into the landing chassis its "spidery" proportions necessary to give clearance may, on the one hand, constitute a source of weakness, or, on the other, give rise to excessive resistance. Owing to the liability of the landing chassis to injury it is clearly desirable that its structure should be complete within itself, yet this is very difficult of achievement in actual design; more often than not there are members in common to the landing chassis and the aerofoil structure or the fuselage. This must be considered a weak point in any design, since it involves the risk that some essential flight organ may on landing be strained or otherwise injured or at least stressed beyond the limit for which it has been designed.

In spite of all that has been done up to the present the landing chassis is only able to take a very moderate "bump" with safety, a 1 foot free fall on to a hard surface is as much as can be deemed safe in the best of existing machines, a free fall of 4 or 5 feet would lead to almost certain failure. This requires that, in landing, a machine should never under any circumstances be allowed to take the ground with a greater vertical velocity component than 8 feet per second. Assuming a gliding angle of $\frac{1}{4}$, this means that a machine, flying at 38 miles per hour (56 feet per second or ft./sec.) could be allowed to take the ground (presuming the latter horizontal), without intervention of the pilot, but for any higher velocity of flight its course must be eased or flattened; in actual practice it is, of course, part of the art of flying to avoid all shock when alighting, no pilot would think of taking the ground without at least making his best effort to flatten his angle of descent. There is probably a future for some form of hydraulic-pneumatic device; already several attempts have been made in that direction.

Passing now to the marine type, we find in the earlier examples a

* Messrs. Voisin Brothers, in the days of their pioneer work, attached great importance to this point. They attributed the early success of Farman (on his Voisin machine) largely to the fact that this feature was embodied in his machine.

landing chassis of the ordinary pattern fitted with a pair of floats in place of wheels and skid, and a temporary tail support in the form of a third float arranged aft under the tail member. In the earlier machines these floats were little more than boxes of rectangular section, Fig. 33; more recently there has been a tendency to give to the floats a more boat-like form (see Report of Advisory Committee, 1912-13, Memo. No. 70), surfaces of single or double curvature being adopted in place of flat, and so the liability to being stove in has been reduced to a minimum. The double-float support has proved itself suited to comparatively smooth water, but a strong feeling exists at the present time that for machines intended to serve on the high seas that construction will be abandoned in favour of the single central boat, as already to be seen in the Curtiss and Sopwith machines (Fig. 34); here auxiliary floats or bob-floats are fitted to the extremities of the aerofoil to give stability to the machine when resting on the water, and to avoid damage to the aerofoil when getting under way or when alighting.

The main floats, whether single or double, require to be constructed to rise in the water on the same principle as the so-called hydroplanes or skimmer craft, being designed with the usual stepped bottom; a single step is found to give the best results.

The design of floats or hull for a marine machine must be regarded as still in an early stage of development, and much will depend in the future on the general evolution of the machine as to what form of float gear will ultimately be found most appropriate. The author is of opinion that as a development of the single boat type at present existing it would appear to be desirable to bring the motor or motors, and other heavy parts as far as possible, down into the hull, and design the boat as a thoroughly sea-worthy craft with proper metacentric height and fitted with its own (marine) screw propeller so that it is capable of being navigated independently of its flight organs, Fig. 35. In such a design it would evidently be necessary to drive the propellers through a belt, chain, or gear of some kind, and mechanism would be provided by which the pilot could jettison the superstructure in emergency. Such a machine would be essentially one of considerable size, and would probably be fitted with two, three, or even more engines, with a total of over 500 h.p. The weight of such a machine would require to be some 3 or 4 tons, and would be capable of making port under its own power in the event of the flight organs being abandoned.

(To be continued.)

FOREIGN AIRCRAFT NEWS.

New World's Duration Record.

BRIEF reference was made in our last issue to the splendid flight of Basser on a Rumpler biplane on the 24th ult., when he made a non-stop of 18 hrs. 11 mins. He started at 3.49 p.m. on the 23rd ult. and landed at 10 a.m. the next morning. Landsmann on an Albatros biplane who started at Johannisthal at 9.9 p.m. on the 23rd ult., after circling above the aerodrome for some time was driven away by a storm and eventually landed at Liegnitz in Silesia at 2.25 the following afternoon, having made a non-stop flight of

17 hrs. 17 mins. The previous duration record was Poulet's 16 hrs. 28 mins. made in April last on a Caudron.

Splendid as was Basser's record, it was beaten within four days by his rival Landsmann who, starting at 8.30 p.m. on Saturday last flew over a course between Johannisthal and Schulzendorf for 21 hours 49 mins. without stopping, the flight only coming to an end through the petrol supply failing. Altogether 625 litres of fuel and 50 kilogs. of oil were used while the distance covered was about 1,900 kiloms. Landsmann used an Albatros biplane which, like Basser's Rumpler, was fitted with a 100 h.p. Mercedes engine.

A Tour of Inspection.

On the 25th ult. Molla arrived at Vincennes on his R.E.P. and completed a tour of 1,200 kiloms., which was undertaken to enable Deputy Girod, who was Molla's passenger throughout, to visit the principal centres of aviation in France.

Buc to St. Raphael on a Blériot.

On a Blériot monoplane fitted with a 60 h.p. Clerget engine, Naval Lient. de Laborde on the 26th ult. made a splendid flight of 850 kiloms. from Buc to St. Raphael in the South of France. Two stops were made, one of three hours at Nevers and the other of two hours at Lyons.

Injured Aviators Honoured.

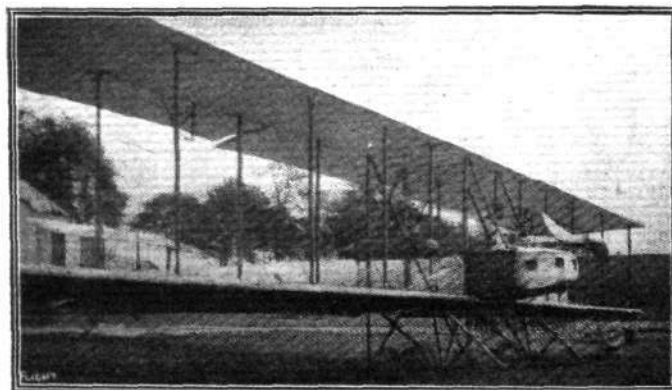
On the 23rd ult. Col. Bouttieaux, in command of the military aviation centre at Dijon, visited the hospital at Vichy and handed to Capt. Voisin the cross of the Legion of Honour and to Sapper Destot the military medal, the awards having been conferred in consideration of the fact that Capt. Voisin and Sapper Destot were injured while flying on duty recently.

Testing the Ponnier Tabloid.

FURTHER tests were made on the 25th ult. at Rheims with the "tabloid" biplane built by the Ponnier firm. With a load of



Herr Max Schüler (centre), who established a world's distance record with two passengers (seen in the photograph) by flying from Leipzig to Breslau—a distance of 205 miles—where he competed in the East German Race on his 150 h.p. D.F.W. scouting biplane. It was on the same machine, it will be remembered, that Herr Schüler won the German "Triangular" Race a short time ago.



French military biplane designed and constructed at the military aircraft factory at Chalais-Meudon.—This machine is characterised by a very long and narrow fuselage, which carries at its rear end a biplane type elevator. The engine is a 200 h.p. horizontal Salmson (Canton-Unné system) driving through bevel reduction gearing a single tractor screw situated in front of the main planes and above the nose of the fuselage. Several seats are provided, and the machine is fitted with a complete set of instruments for wireless telegraphy.

160 kilogs. it climbed 1,000 metres in 7 mins., while the maximum speed was 110 k.p.h. and the minimum 55 k.p.h. Afterwards Rost flew the machine from Rheims to Chateaufort in order that some Russian officers might inspect it.

Robert Morane a Pilot.

ROBERT MORANE, the brother of the well-known constructor and pilot, Leon Morane, qualified for a pilot's certificate at the Morane School at Villacoublay, last week. It may be recalled that Robert Morane was severely injured in a smash when starting as passenger with his brother in an attempt for the Puy de Dome Michelin Prize in 1910.

To See Eclipse from Aeroplane.

AN aeroplane is included among the equipment of Professor Todd, who is coming to Europe from America in order to make observations of the eclipse of the sun on August 21st. Should the weather be cloudy at the time of the eclipse, Professor Todd, who will make his observations at Riga, hopes to be able to rise until he is clear of all obstructions.

Four Fatalities in Germany.

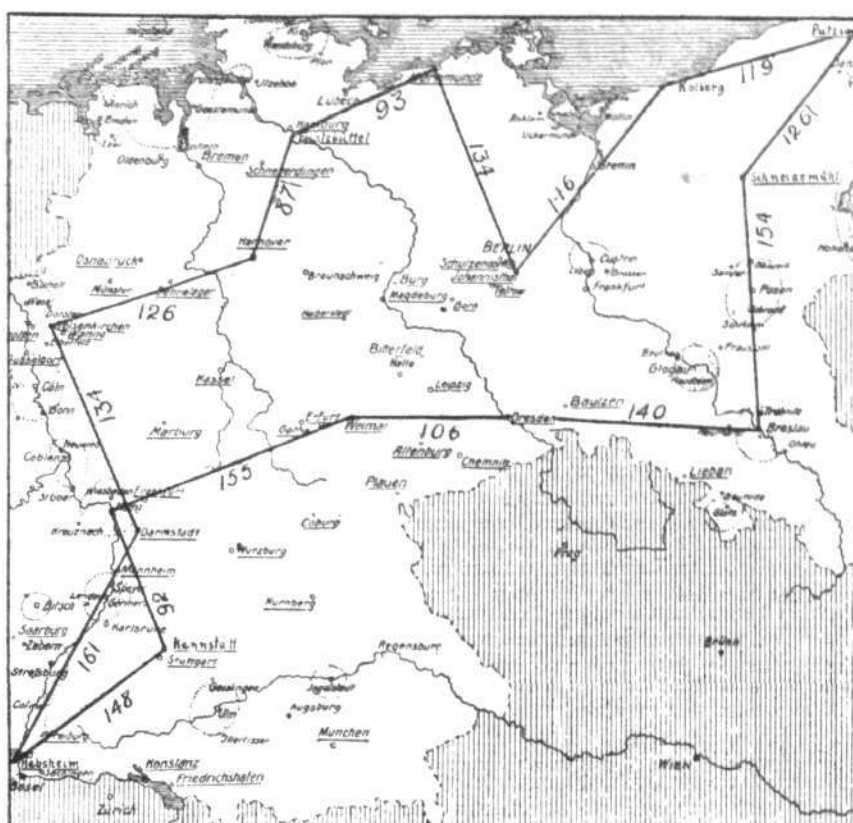
WHILE flying a monoplane at Schwerin, Mecklenburg, on the 24th ult., Lieut. Kolbe fell into a garden and received injuries which resulted fatally. His passenger, Capt. Rhode, escaped with a fractured arm. At Kiel on the following day Naval Lieut. Schroeder was drowned through his seaplane falling from a height of 40 metres. On the 26th ult. a military pilot, Private Grunow, was killed in a fall of 30 metres when flying at Metz; while at Bitsch, in Lorraine, a military aeroplane fell, and the passenger, Major Buechner, was killed, but the pilot escaped with slight injuries.

Belgian Officer Injured.

THE Belgian officer Liedel, while flying at Martelange on the 27th ult., fell from a height of between five and six hundred metres. He had both arms and legs broken, and was taken to the hospital in a very critical condition.

Good Work by Italian Airships.

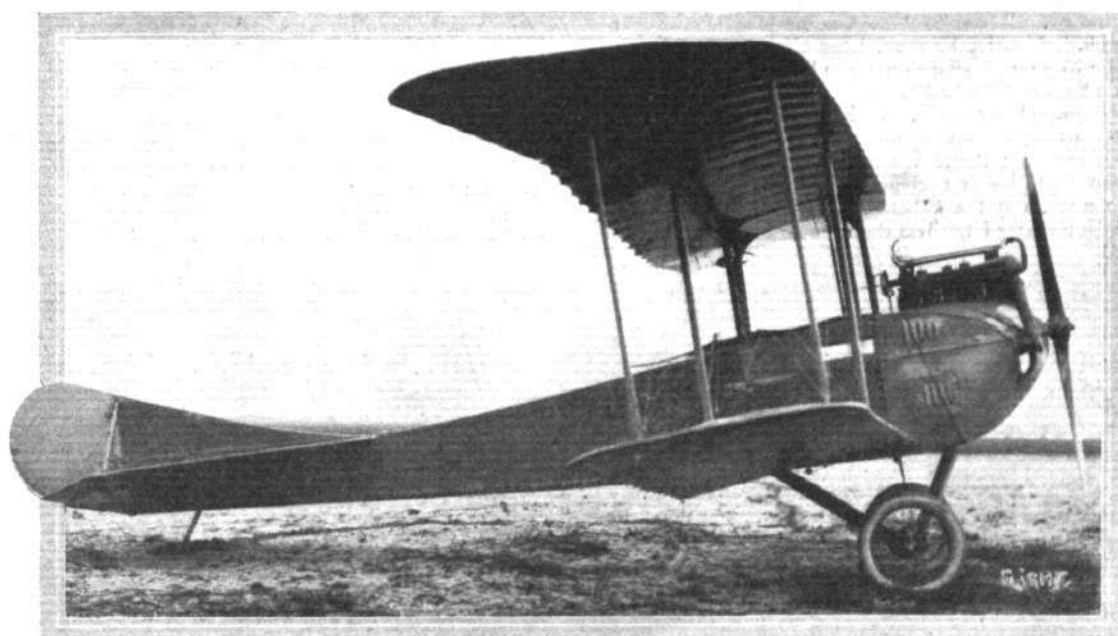
LEAVING her hangar at Boscomantico, near Verona at 4.30 a.m. on the 25th ult., the Italian military dirigible "P5" cruised to Turin, the voyage, which was made by way of Crema, Lodi, Mortara, and Chiavasso, taking four hours. Later in the day she returned to her station.



MAP OF THE 1914 GERMAN MICHELIN CUP COURSE.—The distances between control stations are shown in miles. Competitors are allowed to start from any one of the fifteen turning points. On June 19th, we gave the course for the 1914 French Michelin Cup.

"Adjudant Vincenot" Beats the Record.

WITH a non-stop cruise of 35 hrs. 20 mins. the French military dirigible "Adjudant Vincenot" regained for France the airship duration record. Leaving her station at Toul the airship was steered over a circular course and passed over Paris at 5 p.m. on Saturday afternoon. The previous best recorded performance was that of one of the Zeppelins, which cruised from Friedrichshafen to Johannisthal in 34 hrs. 50 mins.



The Rumpler biplane on which Herr Basser beat the world's duration record at Johannisthal on June 24th last, with a flight of 18 hrs. 12 mins. duration. The nose of the fuselage round the 100 h.p. Mercedes engine is covered with aluminium, whilst the top of the body is covered with three-ply wood. The rear portion of the fuselage is totally covered in with fabric. Provision has been made for quick erecting and dismantling of the wings, which are separated by 12 steel tube struts of streamline section. The chassis is exactly similar to that of the Rumpler monoplanes, thus allowing of interchange of spare parts.

BRITISH NOTES OF THE WEEK.

Men of Moment on Naval Machines.

A VISIT of inspection to the Naval Flying School at Eastchurch was made on the 25th ult. by Sir Francis Hopwood, Civil Lord of the Admiralty, who afterwards enjoyed a flight on a biplane piloted by Commander Samson. On Monday Mr. Eustace Fienness, M.P., who was included among Mr. Winston Churchill's party on the "Enchantress" for the week-end, went for a flight over Calshot and Portsmouth on a biplane piloted by Lieut. Bigsworth.

The Army and the B.E.s.

IN the House of Commons last week, the Secretary of State for War was asked if he would give an explanation as to why so many accidents had occurred with the B.E. biplanes belonging to the Army; why the rudder has no stays to strengthen it, and why the main spars of the machine have such large bolt-holes drilled through them, when other types of machines do not have their spars weakened in such a way; and whether he would do away with the use of the B.E. type of machine in the Army.

Mr. Baker, who replied, said that if the number of accidents in connection with B.E.s. appeared to be large, that was because there was a large number of them in use and because they are continuously in the air. The details of construction are based on most careful and long-continued calculation, and the strength of these machines is in every way satisfactory. There is no intention of doing away with the type until it is superseded by a superior pattern. In reply to a supplementary question, Mr. Baker said that he had made enquiries, and thought it quite untrue that officers had any dislike to the B.E. kind of machine.

The Round Britain Flight.

WHEN the entry list for the Round Britain flight for the *Daily Mail* prize closed on Tuesday last, it was announced by the Royal Aero Club that they totalled nine, the latest being a Beardmore waterplane, fitted with 120 h.p. Austro-Daimler engine, entered by Messrs. Beardmore, Ltd. It will be remembered that the other entries are two Curtiss, two Sopwith and one each Avro, Grahame-White, E.A.C., and Blackburn, as set out in the Royal Aero Club notices. It will also be noticed that the Royal Aero Club, after consulting all the entrants, has decided to postpone the start to Monday, August 10th, and the competition will therefore be open from August 10th to August 22nd. Further details as to the arrangements for the race, which, as last year, will start from Southampton Water, will be published next week.

The London-Paris-London Race.

SOME further details regarding the race from London to Paris and back, which is to be held on Saturday, July 11th, will be found among the Royal Aero Club notices on p. 702. The entries number eleven; they comprise three entered by the Grahame-White Co., including W. L. Brock, R. H. Carr and another pilot yet to be nominated, all on 80 h.p. Gnome-Moranes, Eugene Renaux on a 120 h.p. Maurice Farman, Lord Carbery on either his new Bristol or the Morane, Mallard on a 100 h.p. Gnome-Nieuport, Max Lenoir on a 80 h.p. Gnome-Ponnier monoplane, A. Parmelin on a 80 h.p. Gnome-Deperdussin, R. R. Skene on a 120 h.p. Austro-Daimler-Martinsyde monoplane, T. Elder Hearn on his 80 h.p. Gnome-Blériot and Pierre Verrier on a Farman.

It will be seen that the first competitor will be started from Hendon at 6.30 a.m., and the others will follow in the order of their handicap at intervals of not less than ten minutes. The com-

pulsory stop at Buc, the turning point, has been extended to two hours.

In order to enable the competitors to cross the Channel at a considerable height the competitors will leave the English coast at a high altitude between New Romney and Dungeness, coming down low for identification at Boulogne after the Channel crossing, and on the homeward journey they will leave the French coast, flying high over the Point du Hourdel, near Valéry, coming down lower when crossing the harbour at Folkestone. The rules of the contest insist upon all pilots wearing lifebelts.

The pilot completing the course in the fastest time will receive a valuable trophy and a cash prize of £500 presented by the International Correspondence Schools, who have also presented £200 to be divided between the pilots who are second and third in the handicap. The first prize for the handicap, a sum of £300, has been presented by the members of the Royal Aero Club.

The Grahame-White Scholarship.

ON Tuesday last, Col. Seely presented the Grahame-White scholarship, tenable for twelve months at the Hendon aerodrome, to Sidney Tompkins of St. John's School, Ealing.

Three Days' Flying at Glasgow.

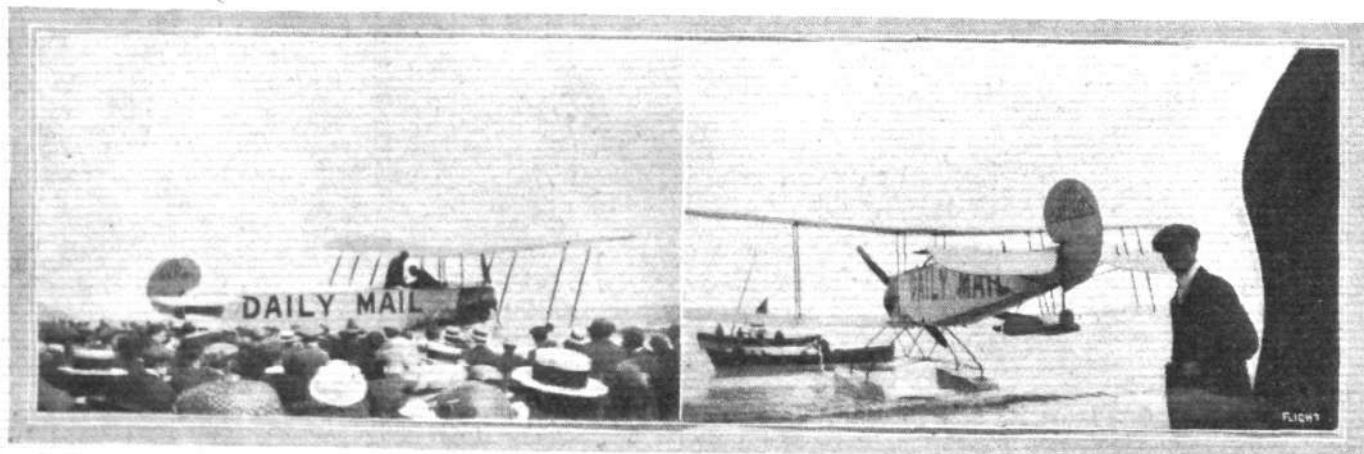
ON the opening day (Thursday, 25th ult.) of the three days' meeting at the Scotstoun Ground on the outskirts of Glasgow the weather was somewhat rough. Mr. Hucks, too, had some bad luck, the tent which did duty as a hangar falling down owing to the breaking of a pole, but little damage was done beyond breaking the rudder on his looping machine. Mr. Hucks first made a solo flight on the two-seater Blériot, after which he took a very young member of a local model aeroplane club up to 4,300 ft. for a joy ride. This was followed by a fine display of steep banking and steeplechasing which aroused great enthusiasm. After a short interval, Mr. Hucks brought out his 50 h.p. Blériot and gave a very fine upside down flight followed by a number of loops. In the evening the conditions improved somewhat and Mr. Hucks gave a similar demonstration to that of the afternoon.

Friday proved a much better day, for although there was a fair amount of wind it was less gusty than on the previous day. During the afternoon Mr. Hucks broke the Scottish height record, attaining an altitude of 7,200 ft., and descending by means of a very fine spiral *vol plané*. In the evening both Mr. Hucks and Mr. Manton, who had arrived with his machine from Malton during the afternoon gave solo and combined demonstrations of fancy flying, after which each did some looping. The last flight of the evening was a demonstration of combined looping; Mr. Hucks and Mr. Manton both on 50 h.p. Blériots rose to the same altitude and manoeuvred round until they were in line side by side and then looped, this evolution being carried out several times before descending. The machines moved with such precision that it seemed as though they were connected by means of an invisible bar.

Saturday, the last day of the meeting was taken up with a similar programme in both the afternoon and evening.

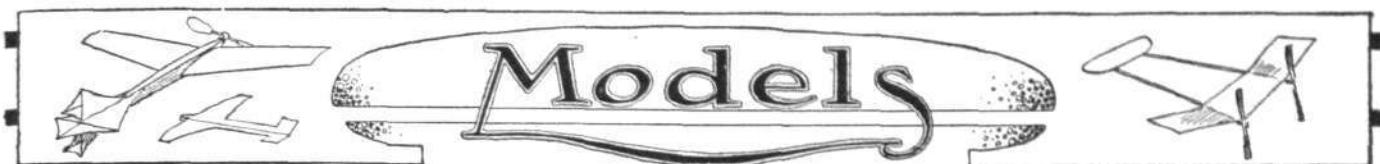
The Advisory Committee's Report.

A LARGE number of enquiries have been received as to the price, &c., of the Report of the Advisory Committee for Aeronautics. This report costs 10s. and the postage is 5d., and copies can be supplied post free from FLIGHT offices, 44, St. Martin's Lane, W.C. on receipt of remittance for 10s. 5d.



F. P. Raynham and his Avro waterplane at Scarborough in connection with the *Daily Mail* tours.

Photo by Miss R. Wallace Barr.



Edited by V. E. JOHNSON, M.A.

The K. and M.A.A. Programme for 1914.

THE programme of the Kite and Model Aeroplane Association's aviation meetings for this season possesses a good many features of especial interest, and a copy of the same should be procured by everyone taking the least interest in either kites or model aeroplanes. The competition meetings extend right on until the end of October, and there is thus plenty of time in which to make every preparation for the majority of the competitions. Considerable alterations have been made in the rules governing many of the competitions with a view to making them of a more reliable and scientific character; for instance:—

1. The distance between the rubber hooks must not exceed the span.

2. Minimum loading for biplanes 4 ozs. per sq. ft., and for monoplanes 6 ozs. per sq. ft.

3. Aspect ratio must be not less than five and not more than twelve.

All r.o.g. models must also rise direct from the ground under their own power, no special rising surface being allowed; and competitions are to be decided on the flight average and not on a best single flight, unless otherwise stated. No less than 16 trophies are to be competed for during the season, as well as The Royal Aero Club Prize, The Women's Patriotic League Prize, The Aeronautical Society's Laboratory Prize, and other prizes, such as silver cups, medals, &c.

Perhaps the competition which will arouse the most widespread interest is that for the Farrow Challenge Shield and Baden-Powell Medals. An inter-club series of competitions which should do much to promote and assist existing model aeroplane clubs and encourage the formation of additional ones as well. This competition is naturally open only to clubs affiliated to the K. and M.A.A. The winning team holds the very handsome shield (which was on view at Olympia) for one year, each member of the team receiving a silver medal, whilst each member of the team next to the winning one receives a bronze medal. The steering competition for models to be held on Wimbledon Common on July 11th is of especial interest because one of the tests, viz., Test B, is a figure of eight; and to qualify for this test, the models must make one complete figure of eight, controlled by mechanical means and not by odd propellers.

On July 25th there is to be two ladies' competitions, one for models and one for kites, both on Wimbledon Common.

The Royal Aero Club Hydro Competition is fixed for August 8th at the Welsh Harp. The minimum weight for the models this time is to be 1 lb. and one trial or launching out of the three is to be made *with the wind*, a course of procedure frequently advocated by the writer.

On the same date and at the same place is to be held the Lady Shelley Hydro Competition for power-driven hydro-aeroplanes rising off the water under their own power. The first prize, a very handsome silver cup, to be won outright.

A very important point about this competition is that the design

of the model submitted must be such as is applicable to full-sized machines.

Another competition restricted to power-driven models is the Sir John C. Shelley Competition for power-driven models rising direct from the ground; here again, the design of the model submitted must be applicable to full-sized practice.

Another competition of more than usual interest is the one to be held on Wimbledon Common on September 19th, viz., the T. W. K. Clarke Challenge Cup, presented by Messrs. T. W. K. Clarke and Co. In this competition, whilst competitors may submit models of any kind, the trophy is to be awarded to the designer of the machine which demonstrates a device or principle which would be considered of the greatest practical use as applied to a full-sized machine.

Another interesting competition is to be held on the same date and at the same place for the Weston Challenge Cup, presented by Mr. H. R. Weston of the Star Aeroplane Co. The competition is one for distance, the type of machine to be used is a single-screw tractor model with an enclosed body. The models must not be less than 8 ozs. in weight, and must have enclosed bodies whose ratio of width to span must not be more than 12. Amongst other competitions we have one for models carrying no forward elevator or tail. Single or twin screws may be used, and the model may be of the monoplane or multiplane type with enclosed body. We have also two weight-carrying competitions and one for hydro-biplanes of 16-oz. minimum weight, and a duration and stability competition for twin-screw tractor r.o.g. models, for which the editor of the model section of FLIGHT is presenting a silver cup. The model body must consist of at least three longitudinal.

The foregoing jottings concerning this season's competitions, which is by no means exhaustive, and from which an excellent selection of kite competitions is entirely omitted, ought surely to be of sufficient interest and value to whet the appetite of even the most indifferent aero model amateur. It is very certain that no other branch of model work can show such a fine collection of valuable trophies to be held and prizes to be won.

That the Association can present such a fine programme speaks volumes for its organisation and the zeal and diligence of its General Honorary Secretary, Mr. W. H. Akehurst.

Messrs. J. Bonn and Co.'s New Specialities.

We have received from the above well-known firm some of their latest specialities for model aeroplane builders, including a pair of their new B.M. type steamed propellers, a specially light and large gear wheel suitable for weight-carrying models, a propeller bracket of excellent scientific design and of very light weight, whilst still possessing an abundance of strength; as well as a propeller shaft axle and rubber hook suitable for holding the B.M. propellers referred to above. These propellers, whilst of minimum weight (a 9-in. propeller, I find, weighs exactly 5.5 grammes), are still quite strong enough for the ordinary r.o.g. models. Every one of the above items undoubtedly supplies a *want*, and as such will undoubtedly be appreciated by all aeromodellists.

KITE AND MODEL AEROPLANE ASSOCIATION.*Official Notices.***British Model Records.**

Single screw, hand-launched	Duration ...	J. E. Louch	95 secs.
	Distance ...	R. Lucas	590 yards.
Twin screw, do. ...	Duration ...	G. Hayden	137 secs.
	Distance ...	W. E. Evans	290 yards.
Single screw, rise off ground	Duration ...	J. E. Louch	68 secs.
	Distance ...	L. H. Slatter	365 yards.
Twin screw, do. ...	Duration ...	J. E. Louch	2 mins. 49 secs.
	Distance ...	C. C. Dutton	266 yards.
Single-tractor screw, hand-launched	Duration ...	J. E. Louch	91 secs.
	Distance ...	C. C. Dutton	190 yards.
Do., off-ground	Duration ...	J. E. Louch	94 secs.
Single screw hydro., off-water	Duration ...	L. H. Slatter	35 secs.
Single-tractor, do., do.	Duration ...	C. C. Dutton	29 secs.
Twin screw, do., do.	Duration ...	L. H. Slatter	60 secs.
Engine driven off grass	Duration ...	D. Stanger	51 secs.

Official Trials.—The monthly official trials were held on Wimbledon Common, June 20th. The results were: Duration, single-screw, h.l., J. E. Louch, K. and M.A.A. and Leytonstone Club, 95 secs.; duration, single-screw, r.o.g., J. E. Louch, K. and M.A.A. and Leytonstone Club, 68 secs.; duration, single-screw tractor, r.o.g., D. Laing, K. and M.A.A. and Wimbledon, 90 secs.; duration, single-screw h.l., F. Wilkinson, Wimbledon, 57 secs.; duration, twin-screw h.l., P. P. Peebles, K. and M.A.A., 134 secs. As will be seen, Mr. J. E. Louch captured two records, raising the single-screw, h.l., from 85 to

95 secs., and the single-screw, r.o.g., from 64 to 68 secs. Mr. P. P. Peebles made three splendid flights in his attempt on the British record of 137 secs. for twin-screw, h.l. models, held by G. Hayden. His three flights were 110, 115, and 134 secs., his last flight being only 3 secs. outside record. This being his first attempt on the record it is hoped he will before long capture some. The official observers were A. F. Houlberg and H. A. Lyche, A.F.K.M.A.A.

The Next Monthly Official Trials in London District.—For the registration of model aeroplane performances, for the purpose of establishing records, will be held on July 18th, on the Leytonstone Club's Ground, Wanstead Flats. Application forms must reach Mr. H. Lyche by Saturday, July 11th.

Competition.—The fifth annual competition for the Gamage Challenge Cup for longest flight took place on June 27th, on Wanstead Flats, the ground of the Leytonstone Club. There was a good field, and was keenly contested. The judges, Messrs. W. H. Akehurst, F. Grattan, H. A. Lyche, and H. Weston made the following awards, which were on the one longest flight, and not on the average, although Mr. Louch would have been the winner if it had been on the average. The result of the first six were: 1st, J. E. Louch, K. and M.A.A. and Leytonstone, 673 yds.; 2nd, H. Bond, K. and M.A.A. and Leytonstone, 462 yds.; 3rd, J. McBirnie, K. and M.A.A. and Aero Models, 403 yds.; 4th, H. Bedford, K. and M.A.A. and Leytonstone, 326 yds.; 5th, C. Dutton, K. and M.A.A. and Paddington, 294 yds.; 6th, T. Carter, Paddington, 247 yds. Mr. Louch, therefore, won the gold medal, and holds the cup for one year from date of prize distribution. Mr. H. Bond and Mr. J. McBirnie won the silver and bronze medal respectively. All the medals are being given by A. W. Gamage, Esq.

Competitions.—Kite-flying competition on Wimbledon Common on July 18th, at 3.30 p.m.: entries close last post Saturday, July 11th; open to members only; registration fee, 3d. The Baden-Powell Challenge Shield, presented by Major B. Baden-Powell, F.R.A.S., for best kite of the year. Prizes:—1st, gold medal of the Association, and winner to hold shield for year; 2nd, silver medal of the

Association; 3rd, bronze medal of the Association. Special additional rules: 1. Competitors may use any kind of kite, with a minimum measurement of 20 ft. computed by Rule 2. 2. Competitors must be at the judges' flag at 3 p.m. sharp, any not present at that time will be disqualified. 3. Total length of line or wire to be 300 yards, but not exceed 310 yards. 4. Each competitor is allowed one assistant, who must wear the competitor's number; any other person assisting will render the competitor liable to disqualification. 5. Marks will be awarded as follows: Angle, one mark for each degree attained, plus 3 extra for each degree above 50; stability, 125; strength of construction, 75; portability, 50.

Inter-Club Competition.—The secretaries of the affiliated clubs met on June 25th, and drew for the first round in this contest for the Farrow Shield and the Baden-Powell Medals, which was as follows: Bath and Somerset v. Sheffield Aero Club, Croydon v. North-East London, Leytonstone v. South-Western, Paddington v. Wimbledon, Stony Stratford v. Reigate and Redhill, Aero Models v. Windsor. This round takes place on Saturday, 4th, and the official results duly signed by the observers present, must be posted to reach the gen. hon. sec. by 1st post on 6th.

W. H. AKEHURST, Gen. Hon. Sec.

AFFILIATED MODEL CLUBS DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Bath and Somerset Aero Club (199, WELLSWAY, BATH).

Monthly Report.—The excellent flights of Mr. Rowland Ding on the 100 h.p. Handley Page biplane were the means of arousing great enthusiasm and interest in Bath. The members of the club assisted the organisers by acting as stewards. The hon. sec., Mr. R. C. Cross, was taken for a passenger flight. Much good model work has been done during the month. Mr. R. C. Cross carried out a number of flights with his large twin-screw machine at night, the model being illuminated with a large paraffin flare placed in front and above the model. During a long glide after a high flight the model alighted on the top of a high tree and was rescued next morning. Messrs. Knight, Lewis, Baker, Jennings, Brampton and Tolman flying consistently and well. Members are busy preparing for the big competition at Bristol.

Croydon and District Ae.C. (82, CLARENDON ROAD, CROYDON).

Monthly Report.—Owing to the favourable weather experienced during June, members have been very busy, and model flying exhibitions have been given in Croydon and the surrounding districts. Mr. C. Smither has been prominent in this respect, and has been flying at Caterham, Purley, Mitcham, Duppas Hill, &c. On June 14th, at Mitcham, Mr. C. Smither obtained a duration of something over 3 mins. with a h.l. model. Though on previous performances the average duration of his model was about 80 to 85 secs., there was no mistaking the great duration of the flight in question. A good crowd of spectators witnessed the flight, and can testify to this effect. With tractor models, Messrs. Taylor, Carter, C. Smither, H. Smither, D. Pavely and P. Hart have all had good flights. Mr. D. A. Pavely obtained a fine duration of 80 secs. with a specially light model built for this purpose. Mr. H. Smither has had some fine flights with a model mono. with tail behind the propellers, which is somewhat unusual. He is confident that with this type of model he will be able to obtain some record results, and it certainly looks as if his anticipations will be fulfilled. On June 28th, a r.o.g. tractor duration competition was held at Mitcham, for a cup presented by Mr. P. Hart. This cup was won by Mr. Fred Carter, who put up a magnificent show. The official figures are not yet to hand, but Mr. D. A. Pavely was second, and Mr. P. Hart, who flew to add more entries to the competition, was third. Mr. H. Smither also had some fine flights, but was troubled with a breakage to the fuselage. Members are now busy tuning up their Farrow Shield models.

Leytonstone and District Aero Club (64, LEYSRING ROAD).

Monthly Report.—The past month has been a very successful period for this club, both as regards the week-end meetings and the results of the K. and M.A.A. open competitions and official trials. At 6.30 a.m. on May 31st, seven r.o.g.s. were flown, three of which were loaded at 4 ozs. to sq. ft., and the remaining four at 6 ozs. to sq. ft. Mr. Bedford with 6 oz. loading averaged 50 secs. for five flights. Mr. Bond, also with 6 oz. loading, averaged 82 secs. for a similar number of flights. Mr. S. C. Hersom with 4 oz. loading averaged 80 secs., and F. Wood averaged 60 secs. Mr. Wharnsley obtained good flights, but with lower durations, about 50 secs. Mr. Grattan and Mr. W. Hersom were each flying single screw tractor models. At 10.30 a.m. a duration competition was held and attracted five entries. Result: Mr. H. Bond 1st, average 80½ secs. for three flights; Mr. H. Bedford 2nd, 66 secs., and F. Wood 3rd, 62½ secs. June 7th, a good meet, but heavy rain spoiled flying. June 13th, four members of this club flew at Wimbledon for the Model Engineer Cup and medals. Mr. H. Bond secured 1st place, Mr. H. Bedford 2nd, Mr. J. E. Louch 3rd, and Mr. T. Kimpton 5th; a very gratifying result, especially as this was the first competition under the new 6 oz. loading rules. On the 14th, fourteen members assembled, and r.o.g.s. were flown by Messrs. S. C. Hersom, H. Bedford, H. Bond, Wharnsley and T. Kimpton. The durations taken were rather low, the best being 57 secs. by Mr. H. Bedford. June 21st was unfavourable on account of rain, but Messrs. Wharnsley, S. C. Hersom and H. Bedford flew r.o.g.s., Mr. T. E. Grattan his tractor, and Mr. L. H. Midson (who has recently joined the club) brought out a scale monoplane of 6 ft. 6 in. span, which was fitted with a steam plant of his own construction. The model in flying order weighs 10 lbs. The engine did several successful runs, but while Mr. Midson was preparing for a flight a slight excess of spirit caused a momentary flame from the lamp to set fire to one of the wings, so the model was put out of action. Mr. Midson is hard at work on another model, so that he will shortly be in the field again. In the competition for the Gamage Cup and medals, which was held on Wanstead Flats on June 27th, Mr. J. E. Louch obtained 1st place with a flight of over 600 yds. Mr. H. Bond was 2nd and Mr. H. Bedford 4th. June 28th, seventeen members turned out. Mr. S. H. Hersom, whose model would not fly straight for the previous day's competition, was getting some beautiful straight flights with good durations. Messrs. Wharnsley, H. Bedford, H. Bond, T. Kimpton and F. Hawthorn also flew r.o.g.s., all of which climbed high and put up good durations. At the K. and M.A.A. official trials on June 20th, Mr. Louch beat the existing records for single screw models, both hand launched and off ground. A committee meeting was held on June 17th, when the club was shown to be in a satisfactory condition.

N.E. London Model Ae.C. (47, JENNER RD. STOKE NEWINGTON, N.)

Monthly Report.—Mr. W. A. Dore with 9-oz. tractor has been on chassis experiments; highest duration, 50 secs. S. Lewin (tractor and single-screw) obtained 45 secs. with tractor and second place in tractor competition. Others flying, Glinzman ("Demosselle" tractor), W. Wood (single canard), and F.

Burton. Longstaffe, with 4 ft. tractor, chiefly consisting of rubber, has been giving demonstrations of vertical climbing; this model was the winner of tractor competition trophy. A new 10-oz. twin by Longstaffe made its first trial flights on Saturday last, obtaining 55 secs., also some effective gliding.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLER).

JULY 4TH: Inter-club contest for Farrow Shield, Paddington v. Wimbledon, at Sudbury. Aug. 1st: open competition for Paddington Cup. Entrance fee 2s. for non-members. Entries must be received by the secretary not later than first post Monday, July 27th. Applications for entry forms should be made without delay. Models must be of the single-screw pusher type, minimum weight and loading 4 ozs. Average of three flights for duration r.o.g.

Monthly Report.—Very little flying has been done during the past month owing to the grass being required for hay. Members have, however, been busy constructing models for the forthcoming competitions of the club and of the K. and M.A.A. At a special general meeting, held on June 17th, the date of the Paddington Cup open competition was fixed for Aug. 1st, and of the President's Prize (value one guinea) for Aug. 20th. The latter competition, for members only, will be for single-screw tractor models, minimum weight 4 ozs. Average of three flights for duration. It is hoped that every member will compete for this prize.

Reigate, Redhill and District (THE COTTAGE, WOODLANDS AVENUE, REDHILL).

JULY 4TH: This club will fly in the first round of the Inter-Club Challenge Shield Competition against Stratford, flying taking place at Earlswood Common at 5.30 p.m. Observers: Messrs. S. G. Wilson, J. W. Burghope and H. V. May.

Monthly Report.—During month club records for distance and duration have been raised. Mr. Hooton, on the 6th, raised duration to 65 secs., and Mr. Key, in Rawson Cup Competition, making 76½ secs. and 627 yds. The chief event was the competition for Col. R. H. Rawson's Challenge Cup on June 20th before a large number of spectators. The conditions were twin r.o.g.'s 4-oz. loading (minimum), no special rising surface. Duration, three trials, average for points. The competition was exceedingly successful, bringing out some of the best of models, and also bringing some of the "lesser lights" to the fore. Mr. Key proved to be the winner with an average of 73½, Mr. Funnell second, average 50½, and Mr. Hooton third with 42, Mr. Sutton 32½, Mr. Norton 30½, Mr. R. G. Wilson 16½, Mr. Kennard 10½, Mr. M. H. Wilson 4½. Mr. Key's durations were 68 secs. in a tree, 75 secs. out of sight, and 76½ "landing" in a lake. Agreed: a good all-round model. The second flight made a point-to-point distance of 627 yds. after circling, all three being high and very steady. Great credit is due to Mr. Funnell for getting second place as he has not been long at "the game." Mr. Kennard had hard luck in colliding with the usual "boy" in the second flight, upsetting the tune of his machine. Mr. Hoyle smashed during tuning up, collided with a tree. The judging and time-keeping was done by Messrs. S. G. Wilson and J. W. Burghope. A sweepstake competition was held, Mr. Hooton drawing the winner and Mr. Funnell curiously drawing himself second. The cup and medals were presented in the evening at headquarters by Mr. J. W. Burghope, vice-chairman, amid the usual festivities and speeches. During the month Mr. Key has been out with Olympia tractor, also 8-oz. r.o.g., getting 80 secs. with latter. Mr. Norton, Olympia 10-oz. r.o.g. and Etrich tractor, 45 secs. with former and Etrich doing about 30 secs. carrying post-cards (photos of itself), also carrying out tests with less and more power and minor alterations to plane. Mr. Sutton's Handley Page Olympia tractor doing a great deal of work, one day flying in strong gusty wind, testing new screws; flying one evening rubber attachment at tail became unfixed when 40 ft. up, rubber suddenly shot to nose—result, nose-dive vertical, but thanks to H.P. planes flattened out and landed gracefully on wheels as though nothing had happened. Mr. Hooton, 8-oz. r.o.g. mono., getting fine flights, also J.W.B. tractor, now extinct. Mr. Hoyle 50 and 55 secs. with Olympia r.o.g., steady flying. Mr. Funnell very good flying with 8½-oz. r.o.g. mono. 35 secs. to 55 secs., very reliable, and flies on low power. Mr. Kennard, 8-oz. r.o.g. mono., the build of which does him credit, has been getting anything up to 55 secs. Messrs. Wilson have had out a good many of their 6-oz. r.o.g. loopers and floating tails, also 10-oz. floating tail r.o.g.

Sheffield Ae.C. (41, CONISTON ROAD, ABBEYDALE, SHEFFIELD).

Monthly Report.—June 2nd, 3rd and 4th, Mr. Marcus Dyce Manton gave exhibition flights of looping the loop, &c., a good number of the members of the



Master C. Dewsnap, the winner of the Colver Cup, for r.o.g. machines. The model seen in his hands secured him the silver medal presented by Mr. Marcus D. Manton for tractor biplanes.

club each day in the intervals of his flights demonstrating the capabilities of their models in the air at Redmires Racecourse. The machines belonging to W. H. Bagshaw, jun., J. P. Worrall, C. F. W. Cudworth and Master C. Dewsnap did some wonderful flights and reached great altitudes.

South-Western Aero Club (373, BRIXTON ROAD, S.W.).

Monthly Report.—A good many new machines have been out this month, among which are the following:—Mr. Prodders, hollow-spar twin-pusher, of very neat design, durations about 60 secs. r.o.g.; this model r.o.g.'s very well indeed, and is very steady on its chassis. Mr. Dickinson, twin-pusher A-frame, duration about 50 secs. Mr. Miller, tractor, unfortunately run over and "killed"

in its infancy by a small boy. Mr. Peel, 4 ft. 6 ins. twin-pusher, of very good stability; on one of its first flights this machine ran off the park and investigated some high trees, from which it was ultimately rescued by the secretary. Flying meetings are held every Wednesday evening in Brockwell Park, opposite the Clock Tower, at 6.30 p.m., and competitions will be occasionally held at the same time and place. The following members are constructing new machines:—Messrs. Miller (tractor), Dickson (h.s. canard), M. Prodder (pusher), Bell (twin-pusher), Drake (tractor biplane). Mr. Peel and Mr. Prodder both entered for the *Model Engineer* Cup, but unfortunately damaged machines in test flights just before the race.

Stony Stratford and District Kite and Model Ae.C. (OLD STRATFORD).

MONTHLY meeting, first Wednesday July. Competition third Saturday. Buckingham members are requested to whip up and see the branch secretary for their arrangements.

Monthly Report.—May and June. Usual meetings at Buckingham, best performances by Williams and Palmer; Palmer, 53 secs. Stony Stratford.—Monthly meeting, May 6th, subject, "Ding Sayer Model." New rules for competitions arranged. May 18th, the following records passed:—Mr. Brown, Class 1B, 63 secs.; Class 1A, 442 yds. Competition, May 16th at Old Stratford. Results: Mr. E. Brown, 1st, average 210 yds. 2 ft.; O. Hamilton, jun., 2nd, 144 yds. 2 ft.; Mennell, 3rd, 130 yds. 1 ft. Excellent flying with single-screws to 42 secs. June 17th, general business. The secretary was able to report good support to prize fund. A tractor r.o.g. being received from the Star Aeroplane Co.; a tractor r.o.g. and pair of propellers from Messrs. Murray, Son and Co., the last-named being allotted for the best performance of r.o.g. machines; the secretary's medal for season 1913-14; Mr. H. Hamilton, pair of propellers, for the best duration during the current three months; Mr. O. Hamilton, jun., a pair of propellers for the first flight of 20 secs. with a tractor r.o.g. The following record was passed: Mr. Mennell, Classes 2A and 2B, 223 yds. 1 ft., and 31 secs. June 20th, distance competition: 1st, W. Palmer, average 246 yds. 2 ft.; Mr. Brown, 2nd, 240 yds.; B. Williams, 3rd, 195 yds. Best single-screw: Mr. Mennell, average of 70 yds. 2 ft. Winner of novices' prize: Mr. Fancutt, average 118 yds. 1 ft. The club were asked along with other local societies to demonstrate at the Hospital Fête at Newport Pagnell on June 27th. Result of a competition arranged for those taking part in the demonstration: Mr. E. Brown, 1st, average 543 secs.; Mr. E. Brown, 2nd, 35½ secs.; Mr. Mennell, 3rd, 24½ secs. Mr. Mennell successfully raised the single-screw duration to 32½ secs. The club have adopted the following basis for future competitions:—1 mark for each second of duration, 1 mark for each 20 ft. distance; but the secretary would like to know of a quick and accurate method of measuring the distances for it takes a little time measuring up 48 flights of average 200 to 400 yards.

Wimbledon and District (165, HOLLAND ROAD, W.).

THE first round for the Farrow Shield takes place on July 4th on the ground of the Paddington Aero Club. The following will represent the Wimbledon Club:—Messrs. G. Hayden, A. F. Houlberg, L. H. Slatter, F. Powell, D. Laing, T. D. C. Chown, A. G. Boniface, D. Easdale and H. D. Davis. July 5th, flying as usual.

Monthly Report.—On June 2nd a handicap competition for duration r.o.g.s. was held and attracted a good entry. Mr. Boniface, flying a tractor, took first place with flight of 77 secs., and Mr. Laing, flying a twin-screw, second with 68 secs. With a 4-oz. loading biplane Mr. Hayden has on one occasion got 102 secs. A similar machine by Mr. Laing, with swept-back wings, shows good stability. Both these models were flown in the *Model Engineer* competition on June 13th, but Mr. Hayden broke a wing and Mr. Laing experienced trouble in getting off. Mr. A. F. Houlberg, with a 6-oz. loading mono. with metal plane, and Mr. Slatter, with a 4-oz. loading biplane, also flew on this occasion, the latter coming in fifth. The official trials were held on June 20th, and several members made attempts on the records, without success. Mr. Laing flew a tractor, Mr. F. Wilkinson had a light h.l. single-pusher canard, Mr. Boniface a 0-1-1-P for the distance record. Mr. F. W. Jannaway, a welcome addition to the club, has been flying his Olympia weight-lifter; Mr. Davis his small twin-screw of which the wing span is 48 ins. and the length of the frame only 33 ins., this combination, with the business-like chassis and bracing, giving the model a resemblance to the full-sized machine which is lacking in most twin-screws.

Windsor Model and Gliding Club (10, ALMA ROAD.).

Monthly Report.—The greater part of this month has been occupied in the construction of the full-size machine. The fuselage has been nearly finished, so that work will soon begin on the wings. So far the weight has worked out very light, consistent with the strength. Time has been found to fly some new models. F. Camm's big weight-carrying machine has made some very impressive flights, and although snafus have been frequent, no great damage has been done. Mr. S. Dandridge has flown a tractor monoplane with great success. It is extraordinary slow, but maintains good stability. J. E. and W. Rogers have flown the model entered for the *Model Engineer* Cup competition, and have made some good durations. S. Camm, S. Spicer and E. Stanbrook have flown various models, but as the average output of the members is three per week, detailed mention cannot be made of them. It is rather a pity that the majority of this season's contests seem designed to encourage the simple duration model, and it is very apparent that if clubs continue to fly models which have no pretensions to resemble full-size design, public interest, so necessary to success, will die out. It is for this reason that the members of this club are building the full-size machine. If all clubs had progressed along these lines, it is not too much to assert that the model movement would have been of considerably more use to aviation. It is gratifying to record that the people of Windsor have responded very well to the appeal for funds.

UNAFFILIATED CLUBS.

Burton and District Aero Club. (156, SHOBNAIL ROAD.)

THE club has been requested by the Towns Attractions Committee to make all arrangements for the Hydro. Competition to be held at the Burton Fête and Gala on August 29th, open to rubber-driven machines of any size or weight. The prizes are £3, £2 and £1; also a silver challenge vase to be competed for by two members of any club within 50 miles of Burton, to be held for one year.

Monthly Report.—The club is making great progress now and anyone in the district interested would do well to communicate with the hon. sec. The result of the Whitsun Competition was:—Duration: 1st, C. G. Lamb; 2nd, J. Makin; 3rd, L. N. Fearn.

Dover Model Ae.C. (1, GUILDFORD LAWN, DOVER.)

Monthly Report.—Some good flying has been done, especially with hydros. Messrs. C. Sargeant and H. T. Holman's machines being the most successful. Mr. Duncan Davis created a club record of nearly 600 yds. with Mr. Ian Macdonell's twin monoplane. Mr. J. Clarke had a flight of about a quarter of a mile with a tractor monoplane, but unfortunately it was not official or it would have been a club record. Although members still persist in fitting sensible chassis on r.o.g. machines, and refuse to use rising boards or carpets, the class

of flying is steadily improving. Mr. Sargeant was making some fine r.o.g. flights with his twin-screw biplane of about 400 yds., and Mr. Whorwell with his tractor monoplane r.o.g. flights of well over 200 yds., and durations of over three-quarters of a minute. With his hand-launched tractor monoplane he got distances of from 350 to 360 yds., and with his tractor biplane from 250 to 260 yds. Messrs. C. Sargeant and Ian Macdonell have been devoting their attention lately to biplanes, and have taken turns in moving up the biplane duration record during the month. It now stands in favour of Mr. Ian Macdonell with a flight of 82 secs. Mr. Ian Macdonell also had some good monoplane flights averaging over 60 secs. Mr. Wicks was doing good flying at the beginning of the month with an r.o.g. monoplane. Mr. Watts has been testing a tractor and twin monoplane, the latter proving the most successful. Mr. H. T. Holman won the recent duration handicap with Mr. Watts a close second. The scale Morane monoplane, which was built by Mr. C. Sargeant for the Dover Model Aero Club Exhibition, has recently been purchased by the Grahame-White Aviation Co. Mr. Sargeant has also nearly completed his model of M. Blériot's cross-channel machine for the Dover Museum, and it is said by those in a position to know that it is quite the equal of the best model seen at the recent Olympia Aero Show. During the past eight weeks papers on various subjects of interest to modellers have been read, and very much appreciated by members. The list is as follows: H. T. Holman, "Model Propellers"; A. Wicks, "Model Airships"; C. Sargeant, "Gnome Engine"; H. T. Holman, "Motive Power for Models"; H. E. Whorwell, "Aviation (a Retrospect)"; H. T. Holman, "Hydros"; H. T. Holman, "Tractors."

Dundee Aero Club (4, FORESTER STREET).

NEXT competition for Luis Trophy, tractor competition. Single screw minimum weight, 6 oz. Last week in August. Hydro-Aeroplane Competition in September.

Monthly Report.—May 23rd, Messrs. Robertson, Maxwell, McNab, Stuart and Powrie were flying at Magdalen Green. Robertson with a 1-1-P2-r.o.g. got 40 secs., a club record, and also a Scottish record for this type of machine. Thanks to the kindness of the commanding officer a very enjoyable evening was spent inspecting the hydros at the naval base on June 10th.

Edinburgh Aero Club (13, HERMANN TERRACE, EDINBURGH).

Monthly Report.—On June 6th flying at Inverleith. Wind blowing hard, but some good flights were obtained by Messrs. Watt, Fiddes, Saidler, Harrison and Ramsay. Mr. Harrison was flying a large r.o.g. twin prop. mono., which did some long flights and some startling banks. On 13th, the long postponed hydro. competition took place at Craiglockhart. The conditions were ideal, the water being very calm and a slight breeze blowing. Messrs. Harrison, Saidler, Watt, Fiddes and Ramsay entered, other members being spectators. The machines with the exception of Mr. Fiddes' were all under surfaced, and they were unable to do anything over a yard out of the water. Mr. Fiddes' machine rose after a run of about 15 yds. and flew for about 15 secs., covering more than half the pond. He had several such flights, which won him the competition. On 20th, flying at Inverleith. Most members present with various machines. Mr. Fiddes some good flights with hydro., Mr. Harrison flying well with large r.o.g. mono., Mr. Watt also some good flights with h.l. mono. On 27th, flying at Inverleith, but owing to high wind only a few members present with machines, the best flights being obtained by Messrs. Harrison and Watt; Mr. Ross out with small looper glider, doing good loops.

Finsbury Park and District (66, ELFORT ROAD, Highbury, N.).

JULY 4TH: Competition meeting, 4.30. Events: 1, speed; 2, h.l. duration for tractors and r.o.g. duration for twin-screw models; and 3, target contest, all types.

Monthly Report.—The general design of models has undergone great improvement, nearly all the single-stick machines having been replaced by a sensible type of body. On May 30th, an all tractor competition meeting was held, which was a great success. The events were:—R.o.g. duration, r.o.g. distance, and h.l. distance. Mr. A. Richards headed the list with 556 points, gaining the club's silver medal; Mr. H. Mullin, 2nd with 459; Mr. S. Pratt, 3rd with 143 points, the other competitors followed closely. Mr. A. Richards' monoplane was a Deperdussin tractor and a fast flyer, Messrs. H. and R. Mullin's machines were of the square wing fish-tail type, Mr. S. Gibbs had a floating tail tractor, and Messrs. B. H. Barnard and S. Pratt, the former with a Deperdussin mono and the latter with a Blériot mono., also put up some steady flying. Mr. A. Richards on June 6th, raised the club's distance record for h.l. tractors to 600 ft. with a Morane swept-back wing tractor mono. Mr. B. H. Barnard put up some good flying with his Morane racer, a heavily loaded monoplane which climbs at a very steep angle without stalling, Mr. S. Pratt also did good work with a Blériot. June 20th, Mr. B. H. Barnard out with Morane mono., S. Gibbs with Handley Page tractor and A. Richards with Deperdussin machine. On June 27th, Mr. Savage was out with twin-screw canard Mr. S. Gibbs' Morane tractor and Mr. B. H. Barnard, Morane tractor, all flying well.

Liverpool Aero Research Club (62, CEDAR GROVE, LIVERPOOL.).

JULY 4TH, 4 p.m. till dusk, at Stanley Park, all types. *Aero Research Trophy Competition Rules for 2nd Quarter.*—This competition is open to members of the Liverpool Aero Research Club only and will be awarded for:—Models of either the tractor or propeller type capable of rising from the ground under their power. Models must be equipped with fuselage entirely covered in. Propulsion may be of any form the competitor may select. The official flying will be timed on Saturday, July 18th or 25th. Models will be required to rise from natural ground, artificial surface will not be provided. Competitors may change, add to, or repair their motive power as often as it is found necessary. Competitors must not assist their models by pushing or otherwise, in rising off, under penalty of being disqualified. The winner shall be the competitor who gains the highest average of points. Points will be allowed one for each second duration. If time permits three trials will be allowed. These regulations will be added to or amended at the discretion of the judge. Entries must be made not later than July 14th.

Monthly Report.—Excellent work has been done by T. W. Bennett (floating tail r.o.g.), B. Lear (canard mono.), G. H. Kilshaw (r.o.g. mono. and canard). Whit-Monday, G. H. Kilshaw and W. Beale out on Aigburth Cliffs experimenting with 6 ft. divided tail mono. as glider. T. W. Bennett (who has also a ½ full-sized Cody man-lifting kite and large "Hawke" kite) and B. Lear at Stanley Park, with r.o.g. and h.l. machines. At Sefton, E. Kilshaw, r.o.g. pusher, G. H. Kilshaw with 4 ft. tractor and h.l., and W. T. Beale. On June 13th and 20th members inspected T. Elder Hearn's Blériot two-seater at Childwall, under repair after its recent mishap and which afforded a good opportunity of studying wing construction, &c. June 16th, Bennett out with 8 ft. 6 ins. box kite and large hawk. The first midweek meeting took place at Stanley, Thursday, June 18th, the impromptu contest between T. W. Bennett and G. H. Kilshaw keeping the crowd in good tone; the former's machine 3 secs. the better. Second midweek meeting at Stanley Park, June 25th, B. Lear with back-swept h.l. canard doing good flights and also h.l. wash-out wing 1-1-0-P2. T. W. Bennett flying his retreated wing h.l. pusher with usual good results, also having out 3 ft. 6 ins. fin box kite and another 4 ft. 6 ins. W. T. Beale flying the former's midjet with remarkable results, being only 1 ft. span.

G. H. Kilshaw testing propellers on a twin-pusher, a pair of Chauviere-type low-pitched sending the model to better heights than the high-pitched carved or bent. Several members are now well on with the trophy competition models, and those intending to compete should get finished and tuned up in good time for contest next month.

St. John's Model Ae.C., Hensingham (19, BEDFORD STREET, HENSINGHAM, WHITEHAVEN).

MEMBERS are requested to note that the closing date for the Beginners' Competition has been postponed from June 30th to July 11th.

Monthly Report.—Competition on June 13th won by H. C. Allinson with his "Jupiter" model, and on June 27th by J. W. Smith. Flying during month by above members, also by Rev. C. E. A. Blackburn, Messrs. Ingledow, Selby, Bedgar, Reynolds and Postlethwaite.

Scottish Ae.S. Model Ae.C. (5, DOUNE QUADRANT, GLASGOW).

JULY 4TH at Paisley, h.l. and r.o.g.s. July 11th, third and final competition for "The Arthur Corbett Cup" at Maxwell Park Pond. Type, Waterplanes. No other official flying meetings will be held during July owing to holidays.

Monthly Report.—At Paisley on May 2nd, the first of the competitions for "The Arthur Corbett Cup" was held, being for h.l. type. The result was as follows:—1. Jas. C. Balden, distance 1,260 ft., duration 52 secs., points 112. 2. T. Graham, distance 800 ft., duration 59 secs., points 97. 3. Ian S. Ross, distance 500 ft., duration 40 secs., points 63. At Paisley on May 9th, Mr. T. Graham testing a new twin-screw r.o.g. with tubular fuselage, his best times being 35, 36, and 38½ secs., the latter being a new official Scottish record for this type. Mr. Jas. C. Balden had out his new looping model, getting 43½ and 46 secs. and one or two loops. May 16th, Mr. T. Graham flying a twin-screw



The Scottish Aeronautical Society Model Aero Club.—The Arthur Corbett Cup, presented by Lord Rowallan to the Club for annual competition. On the right, Mr. T. Graham, of the Scottish Aeronautical Society Model Aero Club, with his twin-screw H.L. record-breaking model (duration 95 secs., distance 3,049 ft.).

h.l., his best times being 57, 61, 66½ secs. Mr. Jas. C. Balden was experimenting with a new single-screw h.l. model, getting 49½ and 48½ secs. Mr. G. Pinney had several good flights with a twin-screw A-frame, his best durations being 33, 32½, and 31 secs. May 30th, Mr. Ian S. Ross flying a neat twin-screw h.l., his best durations being 54½ and 67½ secs. June 13th, the second of the competitions for "The Arthur Corbett Cup" resulted as follows:—1. T. Graham, distance 773 ft., duration 40 secs., points 80. 2. Jas. C. Balden, distance 504 ft., duration 37 secs., points 63. Total to date: 1. T. Graham, 177 points; 2. Jas. C. Balden, 175 points. Mr. Graham's flight of 40 secs. in this competition constitutes a new official Scottish record for this type. On Thursday, Friday, and Saturday last week, the members visited Scotstoun Showground to witness B. C. Hucks and Marcus Manton's exhibition of flying. On the Thursday, Allan M. Muir, one of the youngest members of the club, went up with Mr. Hucks as a passenger, being the winner of the sweepstake organised by the club. He was in the air for twenty minutes, and reached an altitude of 4,300 ft.

S. Eastern Model Ae.C. (1, RAILWAY APPROACH, BROCKLEY).

The usual flying meetings this week-end. Members are requested to note that a Garden Fete and Model Aeroplane Display is being given at the Riverdale Mills, High Street, Lewisham, on Thursday, July 23rd, in aid of local hospitals. Every member is expected to assist, either by personally demonstrating his model or by lending one for exhibition purposes.

Monthly Report.—During the past month Messrs. F. Edwards, A. F. Chinery, W. Jones, G. H. Westwood, W. Entecott, A. D. Nicholls, R. W. Prance and A. B. Clark have been most regular in their attendance at the various meetings. Messrs. Hatful and McLaughlin have flown single-propeller machines, F. Dixon an A-frame and R. E. Attwooll a neat tractor. Amongst some of the most noteworthy flights may be mentioned those made by Messrs. Wilkinson and Nicholls. The former, with an r.o.g. single-propeller model, and the latter, with an r.o.g. twin, captured the club record for their respective class. The membership has lately been appreciably augmented, and the hon. sec. (Mr. A. B. Clark) will be pleased to meet anyone at the next Blackheath meeting. Full particulars of membership may be obtained if written application be made to him at 1, Railway Approach, Brockley.

Southend, Westcliff and Leigh Model Aero Club (96, VALKYRIE ROAD, WESTCLIFF-ON-SEA).

FLYING meetings Wednesday evening and Saturday afternoon.

Monthly Report.—At the meeting for the Watson Trophy the winner was E. Gage. The members also took part in a competition held in Chalkwell Park, Leigh, open to the district, two first prizes out of three being taken by members of this club. 1st, for twin-screw h.l., being E. Prockter; 1st, for simultaneous start race, D. Plaistowe. Others flying: E. Woodfield (new single-screw), E. Prockter (r.o.g. and stability tractor), J. Clappen (single-screw), E. Louis (single-screw bow-frame).

Twickenham and District (74, CLIFDEN ROAD, TWICKENHAM).
JULY 4th, 3.30-6 p.m., waterplane competition for the Franklyn Prize, at Bushy Park; July 5th, 11th, 12th, 13th, and 19th, flying as usual at Whitton Park.

Monthly Report.—June 7th, Mr. Franklyn brought out a 3 ft. 3 ins. floating tail hollow spar machine, but it was very unstable fore and aft, which appears a common fault with this type. Later it was fitted with an elevator, which seems to have corrected all its former vices, and it now puts up good duration flights comfortably. June 20th-21st, amongst others there were present, Messrs. Stagg, Bremner, Maynard, Barnes, Foster, and the secretary, who were out with many and various machines. June 25th, at meeting, the half annual report was read, in which the sec. stated that it was the 27th meeting of the club, and that the state of the club was practically all that could be desired. During the evening a paper was read by Mr. H. Barnes on "Aeroplane Controls," and an interesting discussion followed.

Westcliff-on-Sea and District Aero Club.

A NEW club has been formed by a few gentlemen in Westcliff under the above name. Their first meeting was held on June 11th, being attended by some experienced flyers. A flying meeting is held every Saturday. Competition flights for club cup on alternate Saturdays. New members are required; any gentlemen in or near district should apply for particulars of membership, &c., to Mr. V. A. Gage, 51, Milton Road, Westcliff-on-Sea, or to secretary, Mr. H. R. Cooper, Fleming Crescent, Leigh-on-Sea.

CORRESPONDENCE.

Gyroscopic Action of Rotary Engines.

[1873] With regard to your article on the "Gyroscopic action of Rotary Engines," may I call your attention to the fact that the idea that the axis of rotation should be transverse to the machine, quoted from the *Scientific American*, is by no means new. It was propounded by me in a letter to FLIGHT published on December 24th, 1910, and an arrangement was suggested whereby this gyrostatic action might be used for the purposes of stability. Now, as then, I would still advocate the building of large machines, though, in view of Professor Bryan's investigations on stability, I should probably modify my views as to the necessity of gyrostatic control at all, though conceivably it might be used as an adjunct for the purpose of helping any manual control that might be necessary.

The College, Epsom. CHRISTOPHER W. C. WHEATLEY.

Brakes for Aeroplanes.

[1874] I was very much interested to see letter No. 1870 in this week's issue, as the same thing occurred to me with the exception that I did not think of a reversible engine but of a reversing gear, as reversing engines in marine work are, I believe, not a success. I am looking forward with interest to seeing the opinions of your readers as to the effect of reversing the screw.

S. J. H. TOWNSEND.

Royal Automobile Club, Pall Mall, S.W.

The New Naval Service Badge.

[1875] I see that an eagle has been chosen as the badge of the New R.N. Air Service. Would not an albatross or gull, or other sea bird, have been more appropriate? An eagle at the best of times would make a poor show of water-work.

Southgate Hill, Winchester.

G. S. MOBERLY.

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- 13,483. W. WEST. Motive power mechanism for use as propellers for aerial machines, &c.
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